SAMSUNG TECHWIN

Positioning System

User Manual

SCU-2370
SCU-9051
SCU-VAC
SCU-VAC1

Positioning System

User Manual

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Warranty

If the product does not operate properly in normal conditions, please let us know. Samsung Techwin will resolve the problem for free of charge. The warranty period is 3 years. However, the followings are excluded:

- If the system behaves abnormally because you run a program irrelevant to the system operation.
- Deteriorated performance or natural worn-out in process of time

safety information

CAUTION

RISK OF ELECTRIC SHOCK.
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

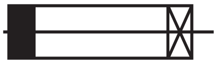
This symbol indicates that dangerous voltage consisting a risk of electric shock is present within this unit.

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

WARNING

- To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.
- To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.

- REPLACE WITH SAME TYPE 250V T10AL FUSE(F1, F2)



WARNING

1. Be sure to use only the standard adapter that is specified in the specification sheet. Using any other adapter could cause fire, electrical shock, or damage to the product.
2. Incorrectly connecting the power supply or replacing battery may cause explosion, fire, electric shock, or damage to the product.
3. Do not connect multiple cameras to a single adapter. Exceeding the capacity may cause abnormal heat generation or fire.
4. Securely plug the power cord into the power receptacle. Insecure connection may cause fire.
5. When installing the camera, fasten it securely and firmly. The fall of camera may cause personal injury.
6. Do not place conductive objects (e.g. screwdrivers, coins, metal parts, etc.) or containers filled with water on top of the camera. Doing so may cause personal injury due to fire, electric shock, or falling objects.
7. Do not install the unit in humid, dusty, or sooty locations. Doing so may cause fire or electric shock.
8. If any unusual smells or smoke come from the unit, stop using the product. In such case, immediately disconnect the power source and contact the service center. Continued use in such a condition may cause fire or electric shock.
9. If this product fails to operate normally, contact the nearest service center. Never disassemble or modify this product in any way. (SAMSUNG is not liable for problems caused by unauthorized modifications or attempted repair.)
10. When cleaning, do not spray water directly onto parts of the product. Doing so may cause fire or electric shock.

CAUTION

1. Do not drop objects on the product or apply strong blows to it. Keep away from a location subject to excessive vibration or magnetic interference.
2. Do not install in a location subject to high temperature (over 50°C), low temperature (below -50°F), or high humidity. Doing so may cause fire or electric shock.
3. If you want to relocate the already installed product, be sure to turn off the power and then move or reinstall it.
4. Remove the power plug from the outlet when there is a lighting storm. Neglecting to do so may cause fire or damage to the product.
5. Keep out of direct sunlight and heat radiation sources. It may cause fire.

safety information

6. Install it in a place with good ventilation.
7. Avoid aiming the camera directly towards extremely bright objects such as sun, as this may damage the CCD image sensor.
8. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
9. The Mains plug is used as a disconnect device and shall stay readily operable at any time.
10. Do not expose the camera to radioactivity. Radioactivity exposure may damage the CCD.

FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions :

1) This device may not cause harmful interference, and
2) This device must accept any interference received including interference that may cause undesired operation.

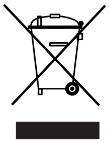
CAUTION

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

IC Compliance Notice

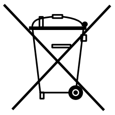
This Class A digital apparatus meets all requirements of the Canadian Interference.-Causing Equipment Regulations of ICES-003.

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)



(Applicable in the European Union and other European countries with separate collection systems)
This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.
Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.
Business users should contact their supplier and check the terms and conditions of the purchase contract.
This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Correct disposal of batteries in this product



(Applicable in the European Union and other European countries with separate battery return systems.)
This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.
To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.

important safety instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Clean only with dry cloth.
6. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
7. Do not install near any heat sources such as radiators, heat registers, or other apparatus (including amplifiers) that produce heat.
8. Do not defeat the safety purpose of the polarized or grounding-type plug.
   A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
9. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Only use attachments/accessories specified by the manufacturer.
11. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
    When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as powersupply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as powersupply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

⚠ Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus

PRECAUTIONS ON INSTALLATION AND USE

- Be sure to install the product vertically. Do never place it in other ways or reversely.
- For safety reasons to prevent a risk of accidental drop-off, use a strong safety chain while installing the product.
- The wall where you intend to install the product should be firm and solid as well as the screws in order to prevent a risk of drop-off.
- Pay special attention to safe transportation. A sudden impact may cause a damage to the product.
- When connecting the power, communication, video and lightening device using the cable gland, seal off the cable gland with a Teflon tape (PTFE) so that no water can inflow.
- If you need to open the housing for the installation work, be sure to turn off the product before proceeding.
- Use only the provided or rated AC adapter.
- Use only power adapter with 24V AC, 6A or higher that satisfies the power specifications.

■ For product consulting, contact your nearest retailer. Note that servicing may be chargeable for using a special equipment such as an extension ladder.

■ This is an assistant device to the monitoring system; the company do not take responsibility for any financial or physical damage to the product that may occur due to theft, fire or natural disasters.

CAUTIONS FOR OPERATING TEMPERATURE

1. The camera cannot operate properly at temperatures lower than -50ºC.
2. Even if the surrounding temperature is -50ºC or higher, the camera may not thaw itself and operate properly depending on the installation environment.
3. Always keep the power on, so the camera can maintain its internal temperature at -10ºC or higher.
4. If the camera was turned on after being left at temperatures lower than -50ºC for a long duration:
   - If the internal temperature is lower than -20ºC, the camera does not transmit video signals and displays a black screen along with the “Wait to warm up(xx Left)” message, instead of operating properly.
   - If the internal temperature is higher than -20ºC and lower than -10ºC, the “Wait to warm up(xx Left)” message disappears as the camera resets itself and enters the operation mode. However, only manual P/T operation is in effect while the Sequence and Turbo commands are limited in use.
   - If the internal temperature is higher than -10ºC, the camera activates all Sequence and Turbo commands.

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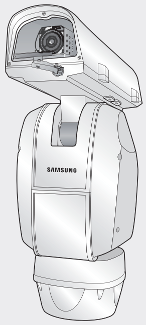
Features

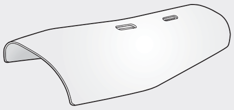
- **Versatile protocols and coaxial communication**
  RS-422/485, Coaxial communication methods are supported.
  - RS-422/485 (10 species) : SAMSUNG-T, SAMSUNG-E, Pelco(D/P), Panasonic, Honeywell, AD, Vicon, GE, Bosch.
  - Coaxial Communications: Pelco Coaxitron (automatic detection)
- **Wide Range Auto Security Functions**
  - Multiple Preset Function Saving : Up to 12 camera image properities can be saved individually to provide high quality pictures. (SCU-2370)
  - Image Holding : Provides Preset Freeze to reduce the eye fatigue of the observer when moving the group.
  - PTZ Trace : Patterns operated with the joystick can be saved and replayed by users.
  - Swing : Using the Swing function commands the camera to move between 2 selected locations, monitoring the route.
  - Group Search : Maximum 255 Preset positions are toured in order.
- **Area Masking**
  If a monitoring location includes a highly private area, the area can be selectively masked on the screen.
- **Smart P/T**
  The Smart P/T function automatically adjusts the control speed of the Pan and Tilt functions according to the current zoom ratio. It is useful to adjust the functions manually for detailed controls when monitoring at high zoom ratios. (SCU-2370/VAC)
- **Day & Night**
  With its daytime & nighttime switch and Sens-Up functions based on the ICR (Infrared Cut filter Removal) method, the camera provides high quality pictures regardless of whether it is day or night.
  - Sens-Up increases the CCD sensitivity by electrically extending the camera’s exposure time.
  - Day & Night enables you to select between color and B/W modes depending on the lighting conditions.
- **OSD(On Screen Display)**
  The camera IDs, camera preset numbers, preset names, area names, and camera operation status are displayed on the monitor, allowing set up of various camera functions through the OSD menu screen.
- **Preset Position Saving and Loading**
  Up to 255 preset positions can be set. Using this function saves and brings up the camera feed of a selected monitoring location.

WHAT'S INCLUDED

Check if the following items are included in the product package.

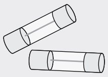


Main Body

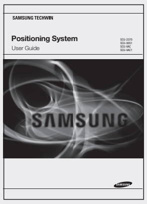


Sunshield

L-type hexagon wrenches (5.0mm)



Fuse (2EA)



SAMSUNG TECHWIN

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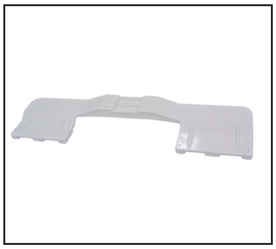
Mount

The following items are sold separately from the camera.

SBU-220PM
Pole Mount

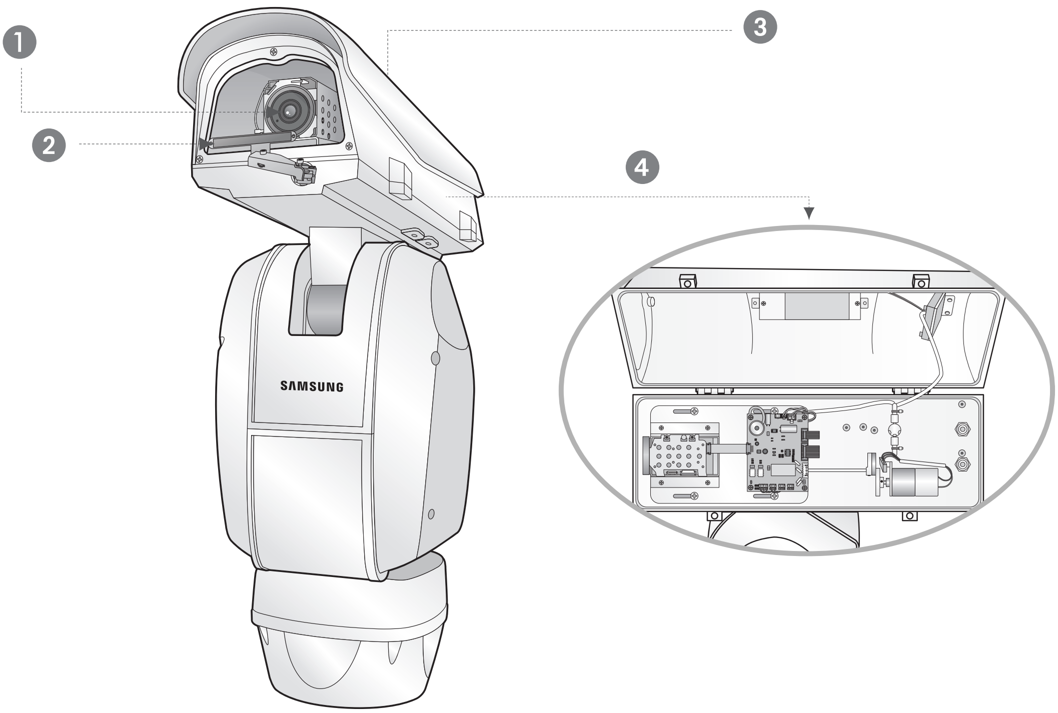
SBU-500WM
Wall Mount



Light Projector Mount

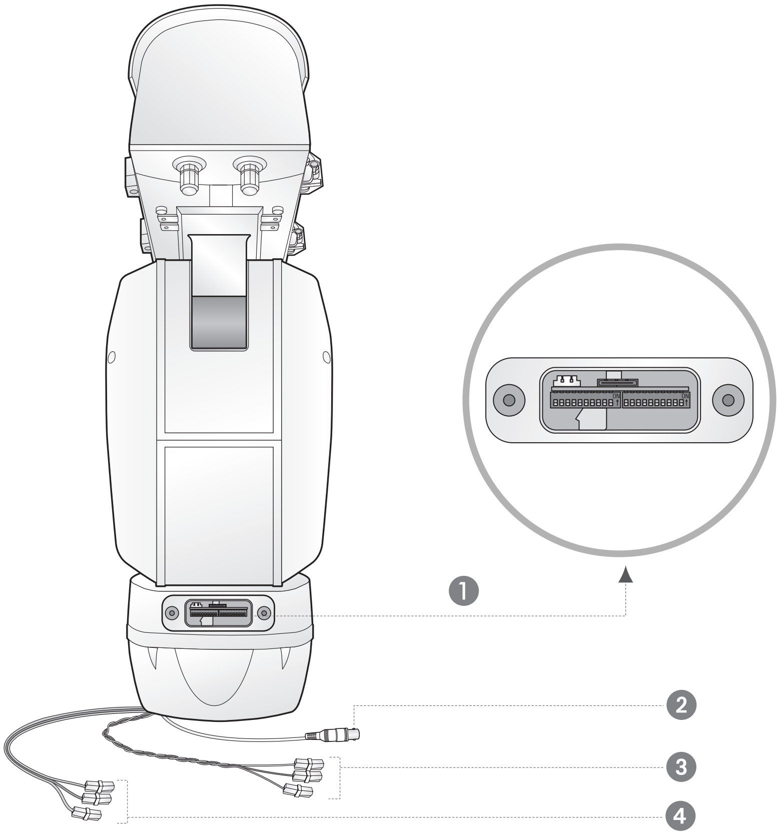
COMPONENT NAMES AND FUNCTIONS

Front



❶ Lens
❷ **Wiper :** Use it to wipe out the front glass of the housing.
❸ Sunshield
❹ Inside the housing

Back



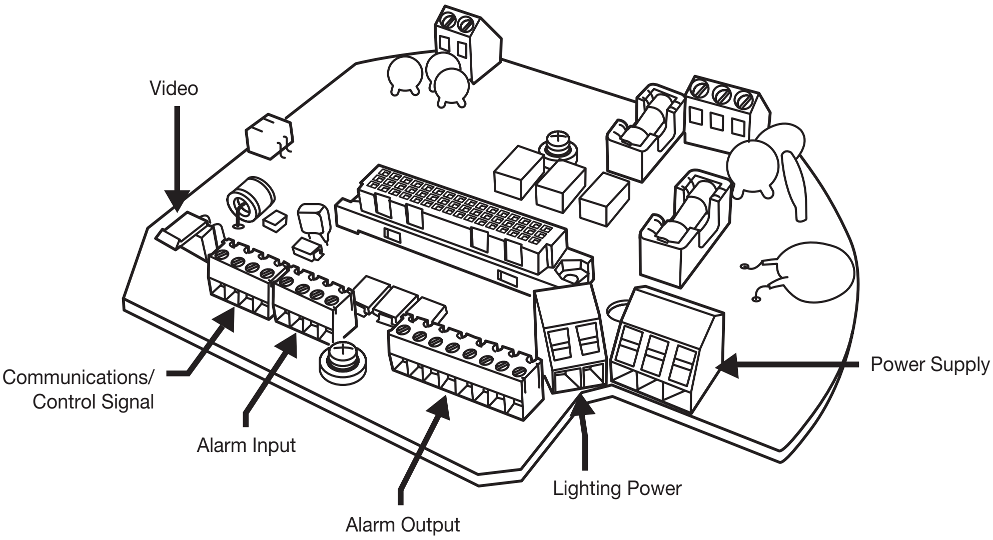
❶ COM/ID Setup Switch
❷ Video Out Cable
❸ Communication Cable
❹ Power Cable

- For the DIP switch settings, please refer to the on Pages 15~18.

connection & installation

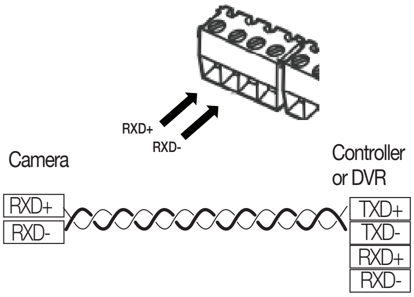
Camera Wiring Interface Board

For the camera wiring, please refer to the picture below.
(When using coaxial communication, a separate control signal connection is not required.)

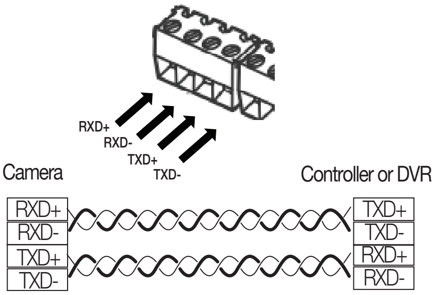

Video
Communications/
Control Signal
Alarm Input
Alarm Output
Lighting Power
Power Supply

Communication/Control Signal Diagram

- **RS-485 Communications**

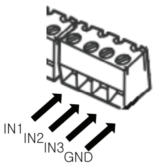

RXD+
RXD-
Camera
Controller
or DVR
RXD+
RXD-
TXD+
TXD-
RXD+
RXD-

- **RS-422 Communications**


RXD+
RXD-
TXD+
TXD-
Camera
Controller or DVR
RXD+
RXD-
TXD+
TXD-
TXD+
TXD-
RXD+
RXD-

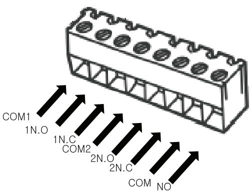
Alarm Connections

- **Alarm Input**


IN1
IN2
IN3
GND

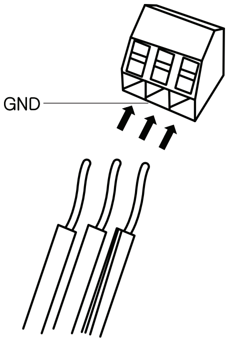
Name	Descriptions
IN1	Alarm Signal Input 1
IN2	Alarm Signal Input 2
In3	Alarm Signal Input 3
GND	Ground

- **Alarm Output**


COM1
1N.O
1N.C
COM2
2N.O
2N.C
COM
NO

Type	Name	Descriptions
Alarm Output	COM1	Alarm Out 1 (Common)
	1N.O	Alarm Out 1 (for Normal Open)
	1N.C	Alarm Out 1 (for Normal Close)
	COM2	Alarm Out 2 (Common)
	2N.O	Alarm Out 2 (for Normal Open)
	2N.C	Alarm Out 2 (for Normal Close)
External Device	COM	External Device (AUX) Terminal
	N.O	External Device (for Normal Open) Terminal

Power Module Connection Diagram



※ The power adaptor (AC) has no polarity.

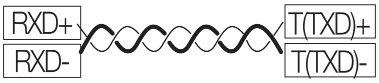
- The maximum power capacity of the built-in relay is 30VDC/2A, 125VAC/0.5A, and 250VAC/0.25A.
- A separate relay driver device is required if used with an adaptor which exceeds specified nominal specifications.
- Connecting the power connector and GND incorrectly to the NC/NO and COM ports may cause a short circuit and fire, damaging the camera.

CAMERA AND APPLIANCES WIRING DIAGRAM

Connecting with Samsung Techwin's "Stand Alone DVR"

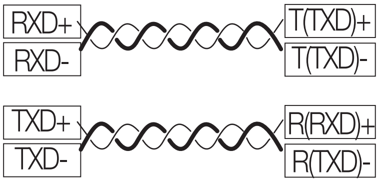
- **RS-485 :**

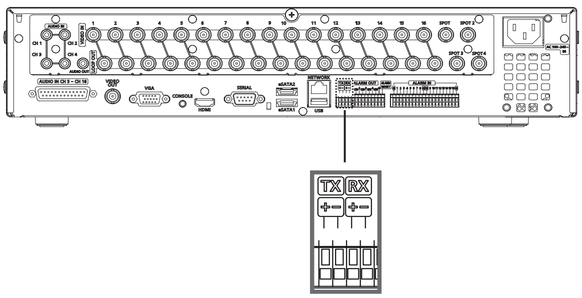
Camera **Stand Alone DVR**



- **RS-422 :**

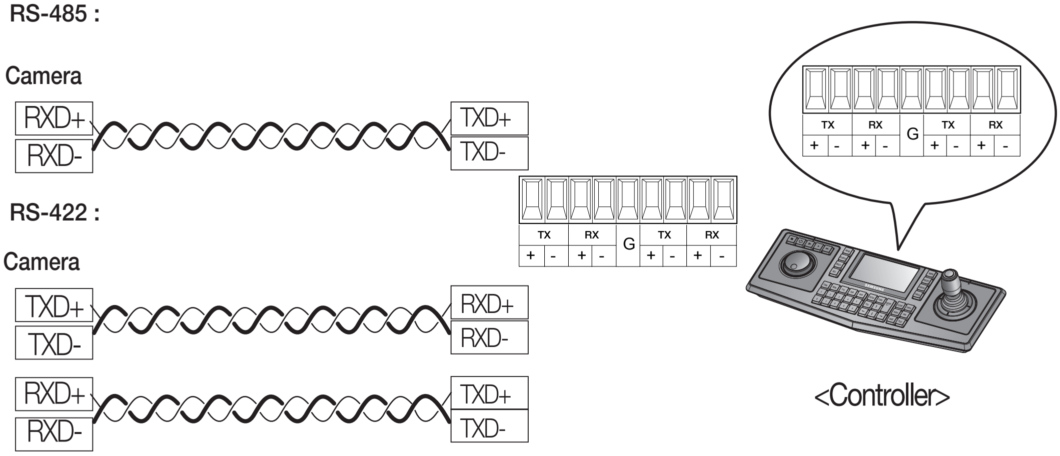
Camera **Stand Alone DVR**





Connecting with the Samsung Techwin Controller SPC-6000

- RS-485 :

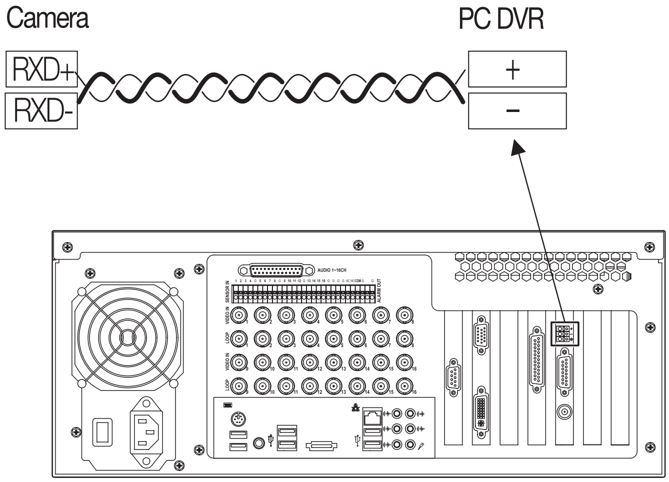

Camera
RXD+
RXD-
TXD+
TXD-
TX
RX
G
TX
RX
+
-
+
-
+
-
+
-
Camera
TXD+
TXD-
RXD+
RXD-
RXD+
RXD-
TXD+
TXD-

- RS-422 :

<Controller>

To connect to Samsung PC DVR

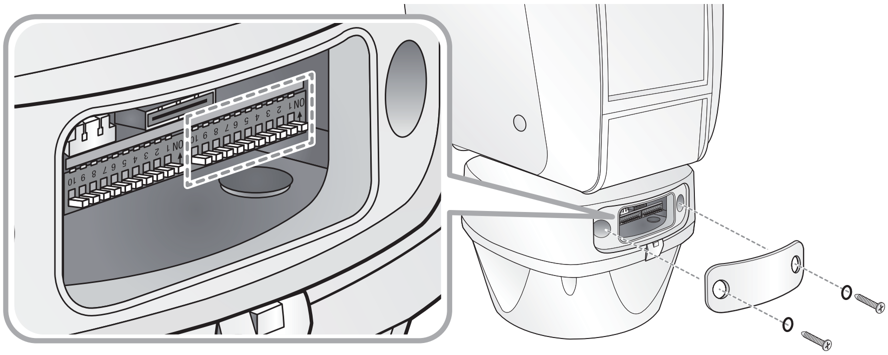
- RS-485 :


Camera
PC DVR
RXD+
RXD-
+
−
AUDIO 1~16CH

SRP-1610/1650

COMMUNICATION PROTOCOL DIP SWITCH SETTINGS

Coaxial communication automatically detects signals, and so does not require a separate communication setup process.



Pin No.	Purpose
1 ~ 4	Protocol Settings
5	Transfer Method (RS-485/422) Settings
6	Response Mode Settings
7	Terminal Resistance RX
8	Terminal Resistance TX
9	TEST
10	Factory Default

Protocol Settings

Select a communication protocol for the camera.

No	Protocol	#4	#3	#2	#1
1	SAMSUNG-T	OFF	OFF	OFF	OFF
2	SAMSUNG-E	OFF	OFF	OFF	ON
3	Pelco-D	OFF	OFF	ON	OFF
4	Pelco-P	OFF	OFF	ON	ON
5	Panasonic	OFF	ON	OFF	OFF
6	Vicon	OFF	ON	OFF	ON
7	Honeywell	OFF	ON	ON	OFF
8	AD	OFF	ON	ON	ON
8	GE	ON	OFF	OFF	OFF
10	Bosch	ON	OFF	OFF	ON

Communication Method Settings

Select a communication method for the camera.

	Function	ON	OFF
#5	Transfer Mode Switch	RS-422(4Wire)	RS-485(2Wire)

Communication Response Settings

Select a communication response method for the camera and controller: Response or No Response.

	Function	ON	OFF
#6	Response Mode Switch	Response	No Response

Termination Settings

To prevent the attenuation of communication signals between the camera and controller, the items at the end of line must be set up with the termination settings.

Camera Input Position	#7	#8
Terminal Resistance RX	ON	OFF
Terminal Resistance TX	OFF	ON

- When terminating for RS-485: #8 → ON
- When terminating for RS-422: #7, #8 → ON

Initialize

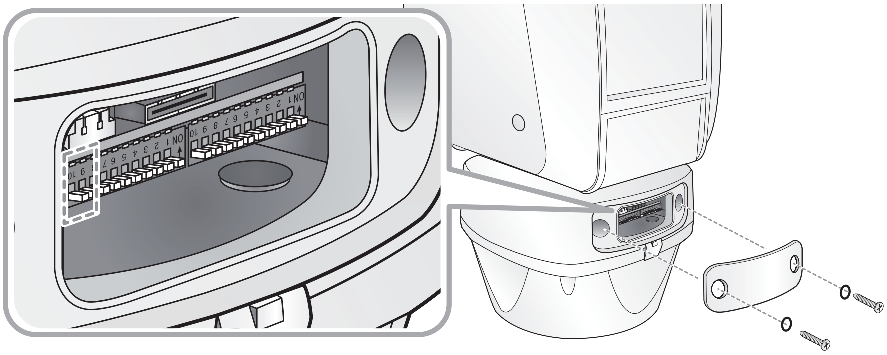
Initialize the system using the Initialize switch on the rear of the product.
Once initialized, all current settings will return to the factory default.

	Initialize	Do not use initialization
#10	ON	OFF

- If you do not set the Reset witch to OFF after resetting the system, all stored data will be lost when you restart the system.

Baud Rate Settings

Select the transfer speed of a selected communication protocol.



No	Baud Rate(BPS)	#9	#10
1	2,400	ON	ON
2	4,800	ON	OFF
3	9,600	OFF	OFF
4	19,200	OFF	ON

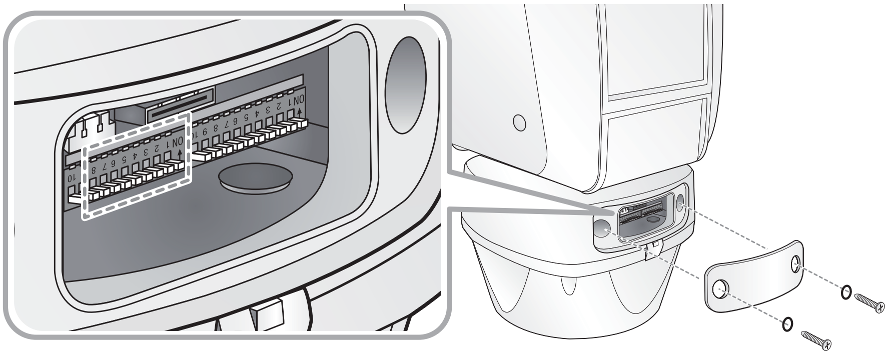
- To use a third party controller with this product, please contact our After-Sales Service or Technology Department.
- Controls Using Different Protocols

	AD Protocol	VICON Protocol	GE Protocol
Entering Camera OSD	3+Auxilary ON	IRIS OPEN	IRIS OPEN
Exiting Camera OSD	3+Auxilary OFF	IRIS CLOSE	IRIS CLOSE
ENTER	IRIS OPEN	IRIS OPEN	IRIS OPEN
ESC	IRIS CLOSE	IRIS CLOSE	IRIS CLOSE

- For more information about the protocols, refer to our official website.
- The product's DIP switch is set to OFF when shipped, and the default values are presented as shadowed in corresponding settings table.

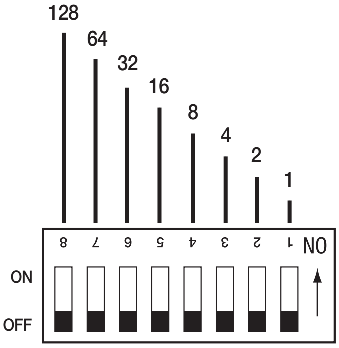
CAMERA ID DIP SWITCH SETTINGS

Assign a unique number for each camera to identify itself from others.

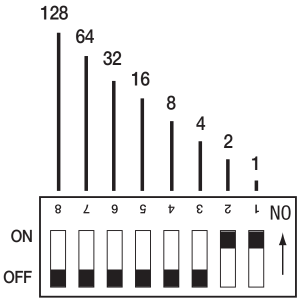
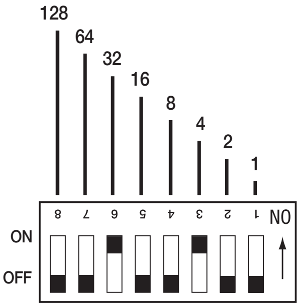
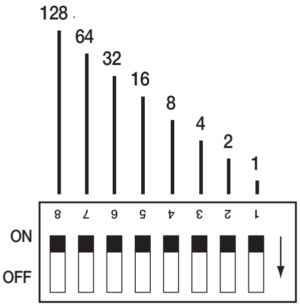


1. The initial value of the switch is “0”, and all of the 8 switches are defaulted to OFF.

2. Each switch has a unique value, and the board ID is the sum of the values of the switches.



- Refer to the example below for the board ID.

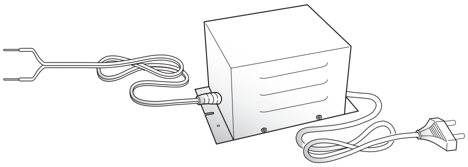
Example 1	Example 2	Example 3
		
1+2 = 3 (Board ID = 3)	4+32 = 36 (Board ID = 36)	1+2+4+8+16+32+64+128 = 255 (Board ID = 255)

- Use a unique ID for each Camera.

PREPARING ADAPTER AND CABLES

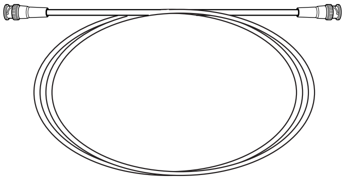
- **Power Adapter**

  Power adapter has the capacity of AC24V 6A.



- **Video Cable**

  The camera’s video output port is connected to the monitor with a BNC coaxial cable, shown below :
  If the distance between the camera and the monitor exceeds the recommended maximum, please use an auxiliary video amp.

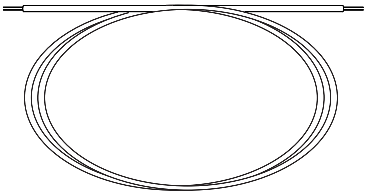


Distance	Recommended Cable Specification
300m	4C2V(RG-59/U)
450m	5C2V(RG-6/U)
600m	7C2V(RG-11/U)

- If the camera is controlled through coaxial communication, please use a video amp intended for coaxial communications. Regular video amps do not transfer coaxial signals.

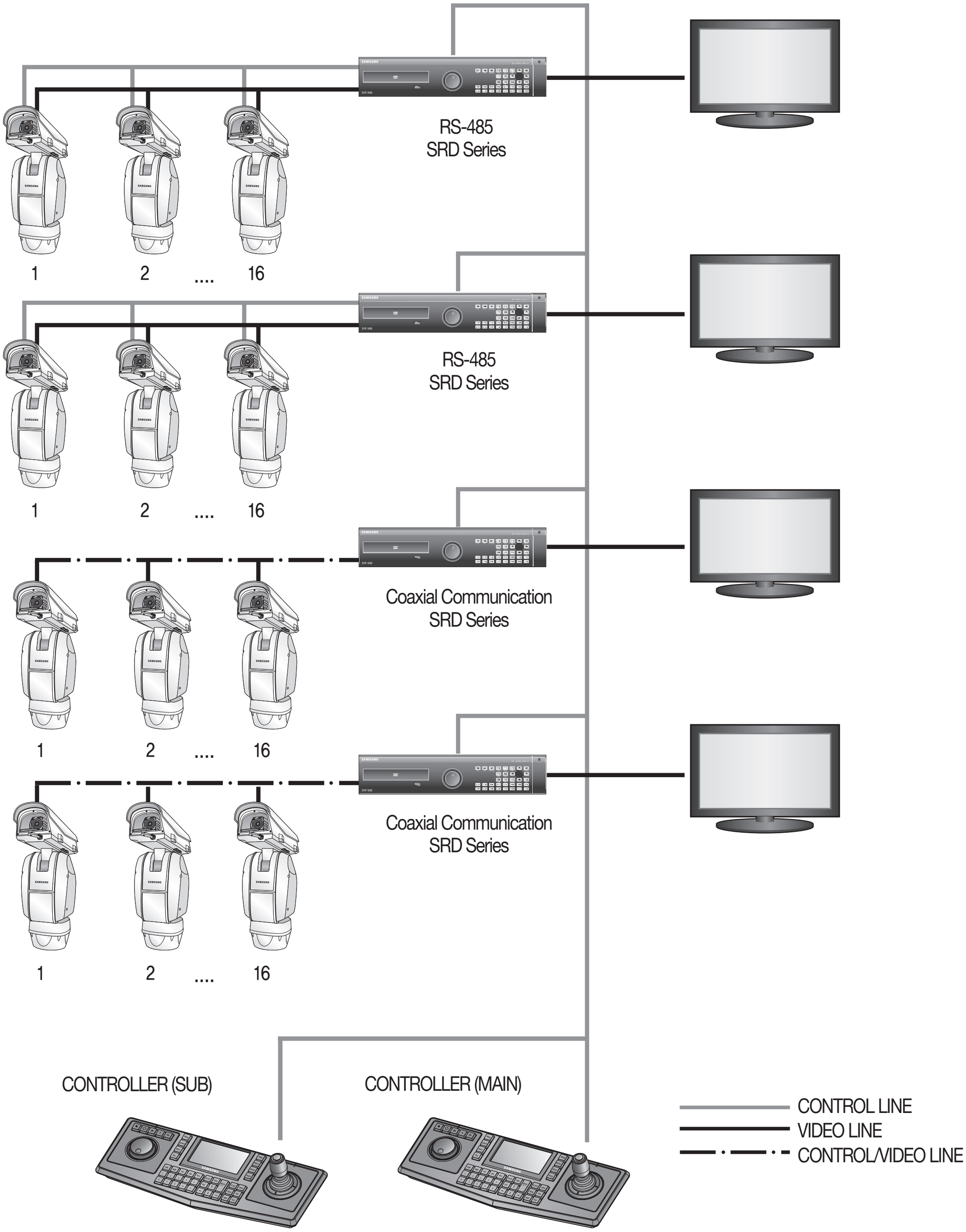
- **Communications Cable**

  For the camera to communicate with the controller, a RS-485/422 communications line is required. To ensure the quality of long distance communication and the accuracy of the overall communication it is recommended using a twisted pair cable such as UTP.



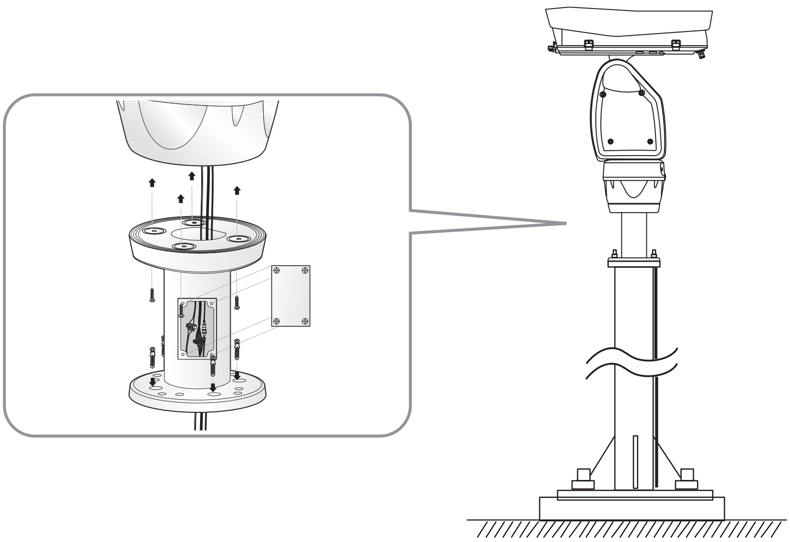
- Depending on the camera’s environment, the communications distance may vary.
- Neither the video nor communications cable is enclosed with the camera.

PRODUCT CONFIGURATIONS

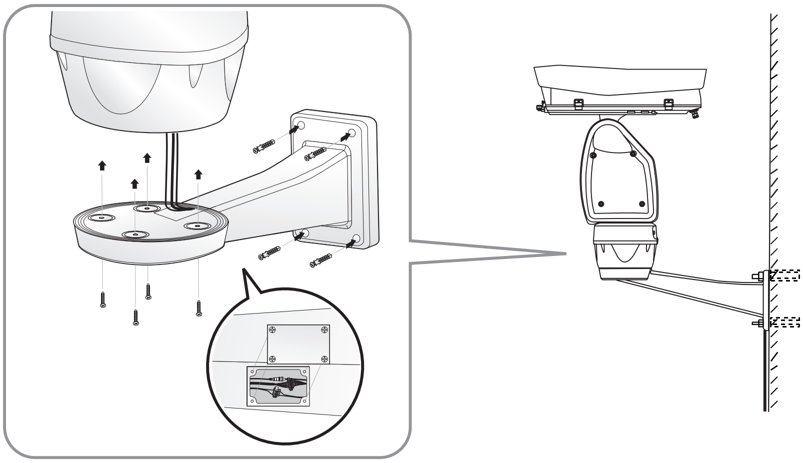

RS-485
SRD Series
1
2
....
16
RS-485
SRD Series
1
2
....
16
Coaxial Communication
SRD Series
1
2
....
16
Coaxial Communication
SRD Series
1
2
....
16
CONTROLLER (SUB)
CONTROLLER (MAIN)
CONTROL LINE
VIDEO LINE
CONTROL/VIDEO LINE

CAMERA INSTALLATION

• Pole Mount



• Wall Mount

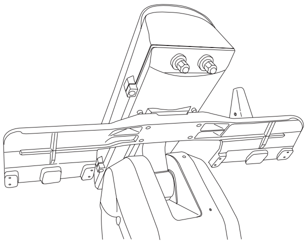


- Do not connect the camera to a power outlet until the installation is complete. Supplying power in the middle of the installation may cause fire or damage the product.
- Bend back the wiper before opening the housing.
- Ensure that the housing is closed completely before you turn on the product. Do not reset the system with the housing open. Otherwise, it may cause damage to the product.

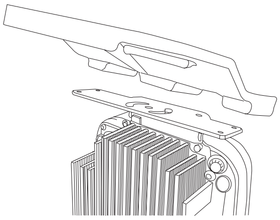
connection & installation

- **To install the light projector**

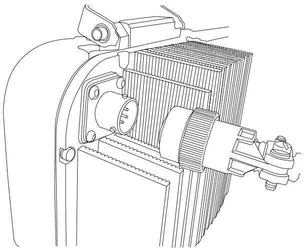
1. Insert 4 hex screws into the hole in the bottom of the bracket as shown.



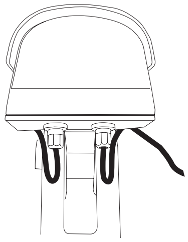
2. Use 4 hex screws from outside bottom up to fix the light projector. Insert the hex screw into the center hole from the top of the mount to the light projector.



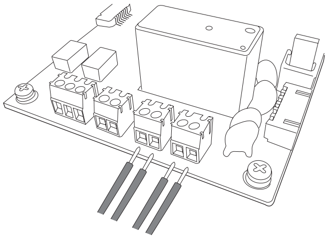
3. Connect the cables.



4. Insert the projector cables through the rear hole of the camera.



5. Connect the wires to the PCB as appropriate.
This is for SCU-2370. The wiring diagram for SCU-VAC/VAC1/9051 is provided in the separate sub manual.)



INTERFACE SYMBOLS

- **Motion Detection Standby/Operation Display :**

  When in standby mode, the “D” in the upper right of the screen blinks and then changes to “🏃” if motion is detected.

- **Alarm Input Port Status Display :**

  "1", "2" and "3" in the upper right of the screen blink.

- **Current Alarm Port Display According to Input Alarm Ports(Priority) :**

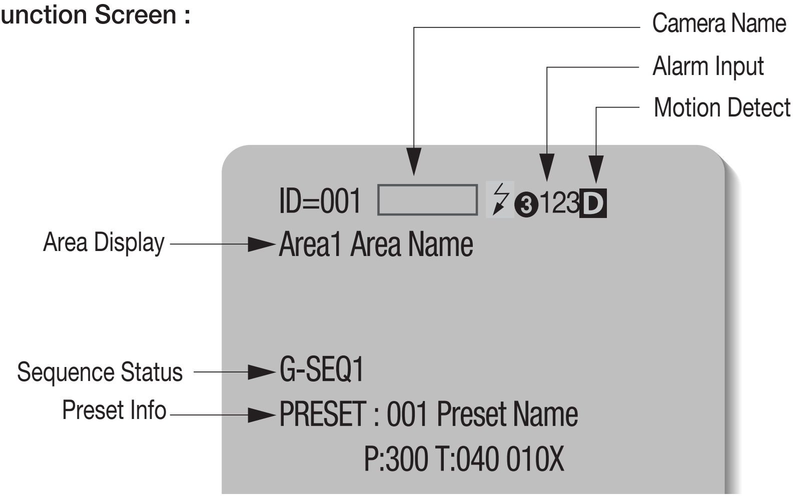
  Only one of "⚡❶", "⚡❷", "⚡❸" in the upper right of the screen blinks.

  ※ The alarm port indicator blinks only when the sequence is set .

- **Preset Number Display Settings :**

  ‘*’ : If a preset number is already available
  'H' : If a preset location is the camera’s home position

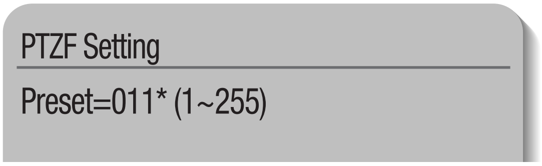
- **PTZ Function Screen :**


Camera Name
Alarm Input
Motion Detect
Area Display
Sequence Status
Preset Info

ID=001 ☐ ⚡❸123D
Area1 Area Name

G-SEQ1
PRESET : 001 Preset Name
P:300 T:040 010X

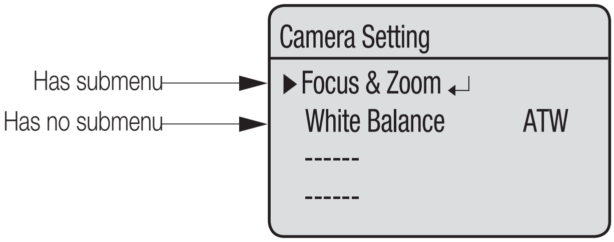
- **Preset Number Setting Screen :**



PTZF Setting
Preset=011* (1~255)

USING AND SETTING THE MENUS

OSD (On-screen Display) Indicators



Operating Your Camera

- **Panning and Tilting :**
  Use the joystick of the controller or its direction buttons.

- **Controlling Zoom :**
  Move the joystick clockwise (Tele) or counterclockwise (Wide), or use the zoom buttons.

- **Accessing Screen Menus:**
  Press the Menu or OSD button on the controller.

- For more detailed information about controls using a third party controller or a DVR, refer to the user's manual of the product.

OSD Commands, Function Chart, and Menu Controls

This camera can be operated using two methods: Using hot keys on its dedicated controller, or accessing the OSD (On Screen Display) on the video output.
The OSD menu commands are as follows:

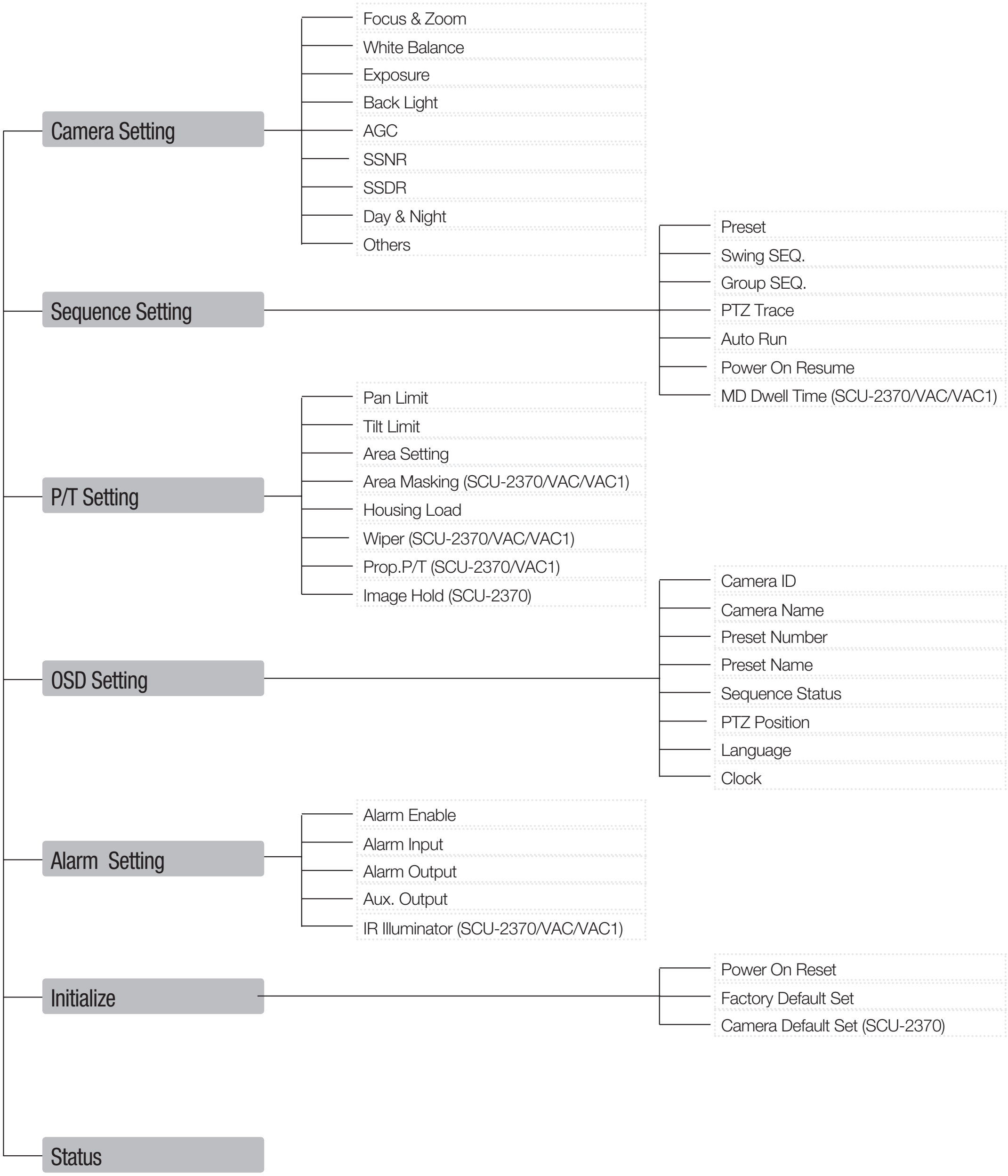
Command	Function
Move the joystick up/down/left/right	Moves the OSD menus up/down/left/right, respectively.
Enter/Focus Far	Selects a menu and allows access to the sub menus.
ESC/Focus Near	Cancels a command and moves back to an upper-level menu.

OSD Menu Chart

You can have an overall view of the menu structure. For more information, refer to the applicable page or section in the manual.

※ For more information about SCU-9051, refer to the "Camera Setting" section in the provided manual.

※ For more information about SCU-VAC, refer to the "Camera Setting" section in the manual that was provided when you purchased the camera module.


Camera Setting
Focus & Zoom
White Balance
Exposure
Back Light
AGC
SSNR
SSDR
Day & Night
Others
Sequence Setting
Preset
Swing SEQ.
Group SEQ.
PTZ Trace
Auto Run
Power On Resume
MD Dwell Time (SCU-2370/VAC/VAC1)
P/T Setting
Pan Limit
Tilt Limit
Area Setting
Area Masking (SCU-2370/VAC/VAC1)
Housing Load
Wiper (SCU-2370/VAC/VAC1)
Prop.P/T (SCU-2370/VAC1)
Image Hold (SCU-2370)
OSD Setting
Camera ID
Camera Name
Preset Number
Preset Name
Sequence Status
PTZ Position
Language
Clock
Alarm Setting
Alarm Enable
Alarm Input
Alarm Output
Aux. Output
IR Illuminator (SCU-2370/VAC/VAC1)
Initialize
Power On Reset
Factory Default Set
Camera Default Set (SCU-2370)
Status

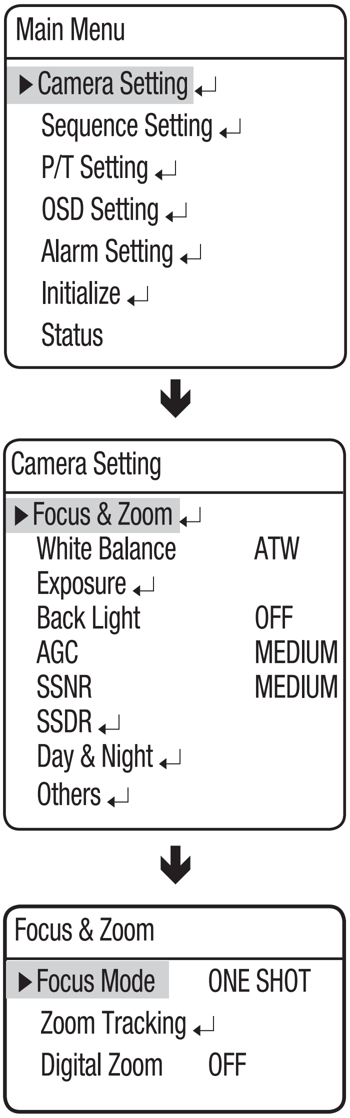
CAMERA SETTING

※ The camera setting section in this manual is explained based on SCU-2370. For SCU-9051/SCU-VAC, refer to the applicable user manual.

Focus and Zoom Settings

- **Focus Mode**
  - AUTO : Performs continuous auto-focus.
  - MANUAL : Changes the camera mode to Manual Focus.
  - ONE SHOT : Auto-focuses the camera once after the Pan, Tilt, or Zoom function is used.
- **Digital Zoom**

  Enables the maximum digital zoom.
  Digital zoom magnifies from x2 to x16, which provides with zooming up to x592 in maximum when applied with the optical zoom.



Main Menu
▶Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status

Camera Setting
▶Focus & Zoom ↵
White Balance ATW
Exposure ↵
Back Light OFF
AGC MEDIUM
SSNR MEDIUM
SSDR ↵
Day & Night ↵
Others ↵

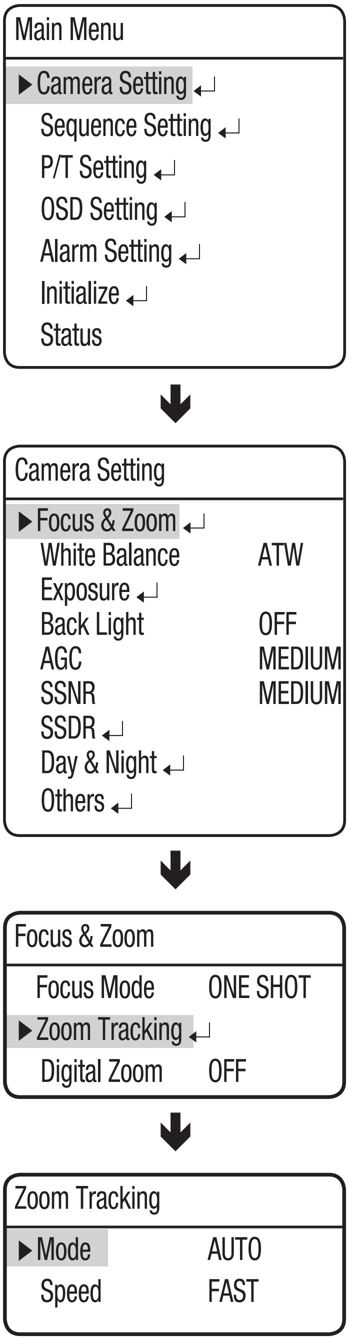
Focus & Zoom
▶Focus Mode ONE SHOT
Zoom Tracking ↵
Digital Zoom OFF

- Unlike the optical zoom, the graphics quality of the digital zoom decreases as its zoom ratio increases.
- The auto-focus function may not operate normally under the following conditions :
  - When background illumination is low
  - While Slow-Shutter is in operation
  - If the zoom level is set too high
  - When background illumination is too high
  - If a long distance object and a close distance object appear together within a monitoring area
  - If there is no contrast, e.g. the sky or a wall
  - If the camera is facing a thin horizontal line
- Auto Focus focuses on an object in the center of the screen; objects around the screen edges may not be properly in focus.

Zoom Tracking

Through this menu you can set up the camera's focus mode when zooming.

- **Mode**
  - AUTO : Auto-focuses when zooming.
  - TRACKING : Focuses manually when zooming.
  - OFF : Disable the focus modes when zooming. (Full manual mode)
- **Speed**
  SLOW/MEDIUM/FAST : Adjusts the zooming speed.



Main Menu
▶Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status

Camera Setting
▶Focus & Zoom ↵
White Balance ATW
Exposure ↵
Back Light OFF
AGC MEDIUM
SSNR MEDIUM
SSDR ↵
Day & Night ↵
Others ↵

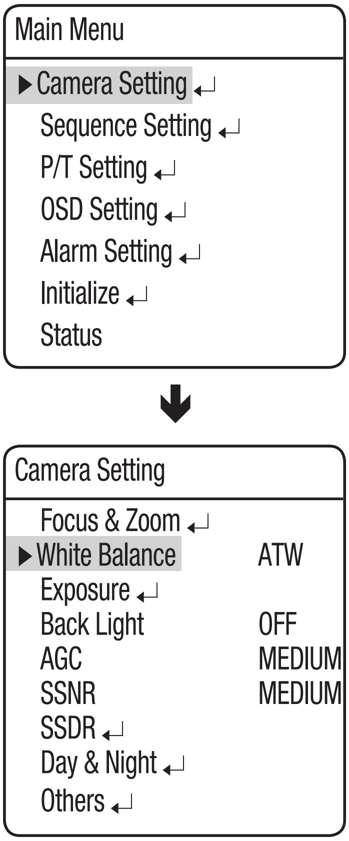
Focus & Zoom
Focus Mode ONE SHOT
▶Zoom Tracking ↵
Digital Zoom OFF

Zoom Tracking
▶Mode AUTO
Speed FAST

White Balance

The White Balance menu adjusts the balance of the screen colors under different lighting conditions.

- **ATW :** Adjusts the screen color automatically.
- **INDOOR :** Adjusts the screen color to be optimal in an indoor environment.
- **OUTDOOR :** Adjusts the screen color to be optimal in an outdoor environment.
- **AWC :** Adjusts the screen color to be optimized to the current lighting and monitor conditions. Using this setting may require an readjustment if the lighting conditions changes.
- **MANUAL :** Enables customization the Red and Blue gains.


Main Menu
▶Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status
Camera Setting
Focus & Zoom ↵
▶White Balance ATW
Exposure ↵
Back Light OFF
AGC MEDIUM
SSNR MEDIUM
SSDR ↵
Day & Night ↵
Others ↵

- White Balance may not work properly under the following conditions.

❶ When the color temperature of the environment surrounding the subject is out of the control range.(e.g. Clear sky or sunset)

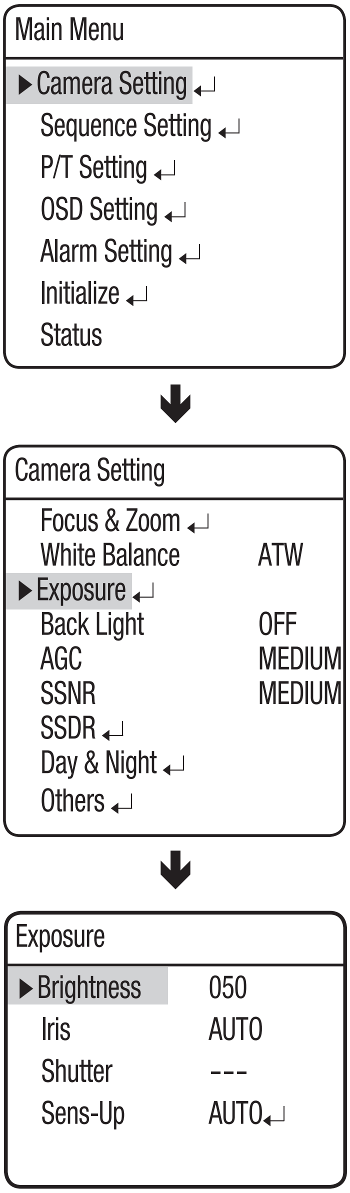
❷ When the ambient illumination of the subject is dim.

❸ If the camera is directed towards a fluorescent light or is installed in a place where illumination changes dramatically, White Balance adjustments may not deliver consistent results.

Exposure

The Exposure settings are to control the camera's exposure meter.

- **Brightness :** Adjusts the screen brightness.
  (Over 50: Brighter, Under 50: Darker)
- **Iris**
  - AUTO : Automatically adjusts the exposure meter.
  - MANUAL : Enables manual adjustment of the exposure meter. (F1.6~Close: 18 levels)
- **Shutter :** Controls the camera's electronic shutter.
  - --- : The shutter speed is fixed at 1/60 for NTSC and 1/50 for PAL. Operates when Iris is on the Auto Mode.
  - ESC : Adjusts the shutter speed automatically according to the screen brightness. Operates when Iris is on the Manual Mode.
  - A.FLK : Select this setting when you experience picture flickering. Flickering can happen when artificial lighting frequencies clash with camera frame rates.
  - MANUAL : Enables manual adjustment of the shutter speed.
- **Sens-Up**
  - AUTO : Automatically detects light levels and maintains a clear picture at night or under low-light conditions.
  - Sens-Up Limit : Adjusts to the maximum-powered zoom per frame.


Main Menu
▶Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status

Camera Setting
Focus & Zoom ↵
White Balance ATW
▶Exposure ↵
Back Light OFF
AGC MEDIUM
SSNR MEDIUM
SSDR ↵
Day & Night ↵
Others ↵

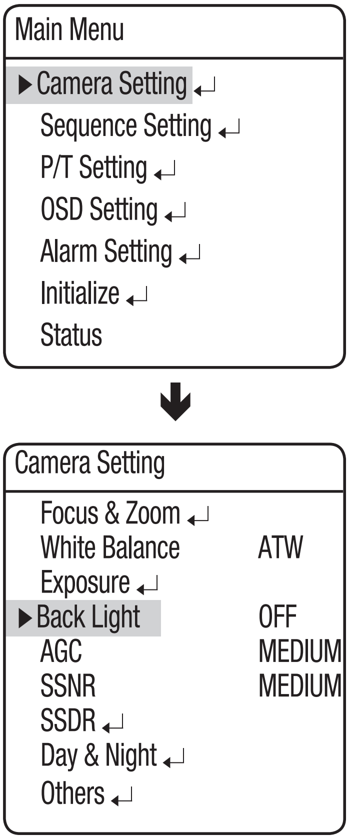
Exposure
▶Brightness 050
Iris AUTO
Shutter ---
Sens-Up AUTO↵

- For optimal performance of the A.FLK mode, avoid using the mode in conjunction with Backlight.
- While the Internal Sync mode is in effect, setting the shutter to '---' and facing the camera directly to a bright light source may cause poor camera performance.
- Sens-Up is disabled when the shutter is in Manual or A. FLK mode.

Back Light

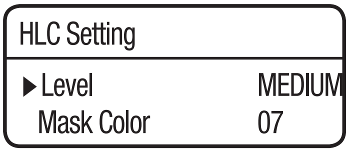
Unlike other cameras, Samsung Techwin's unique W-V DSP chip gives you a clear image of the subject even with bright backlight.

- **Back Light Mode**
  - OFF : Disables the Backlight mode.
  - HLC : Activates the High Light Compensation mode.
  - BLC : Activates a user defined backlight compensation mode.

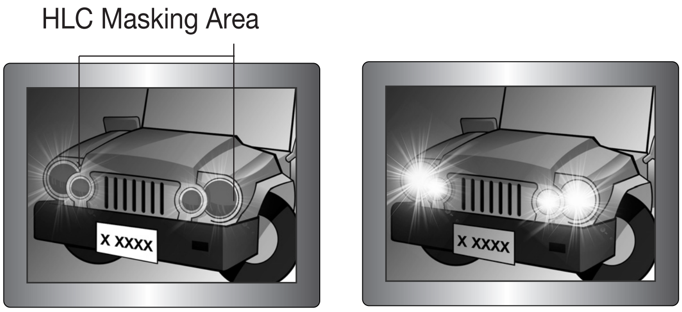

Main Menu
▶Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status
Camera Setting
Focus & Zoom ↵
White Balance ATW
Exposure ↵
▶Back Light OFF
AGC MEDIUM
SSNR MEDIUM
SSDR ↵
Day & Night ↵
Others ↵

◈ HLC Setting

The HLC settings selectively eliminates high lights in a limited environment such as the entrance to an apartment parking lot or gas station, and is useful to detect a small objects like car license plates.


HLC Setting
▶Level MEDIUM
Mask Color 07

HLC is disabled during the daytime. While monitoring nigh time car traffic, if car headlights reflects too much bright light on the screen, the camera automatically eliminates the headlamp lights and adjusts the color of the license plate accordingly.



<HLC ON> <HLC OFF>

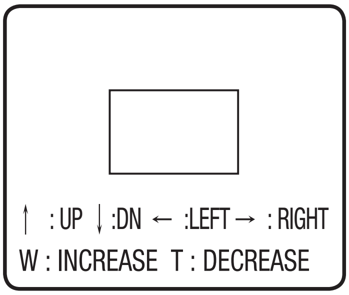
- Level : Adjusts the HLC sensitivity level.
- Mask Color : Adjusts the mask color on the high lighted area.

- Even if HLC is on, car license plates may not be detectable depending on the location and angle of the camera as well as the lighting condition.
- HLC does not function if in Digital Zoom or Freeze function is in use.

◈ BLC Setting

You can selectively choose a screen area to see objects within the area more clearly than others.

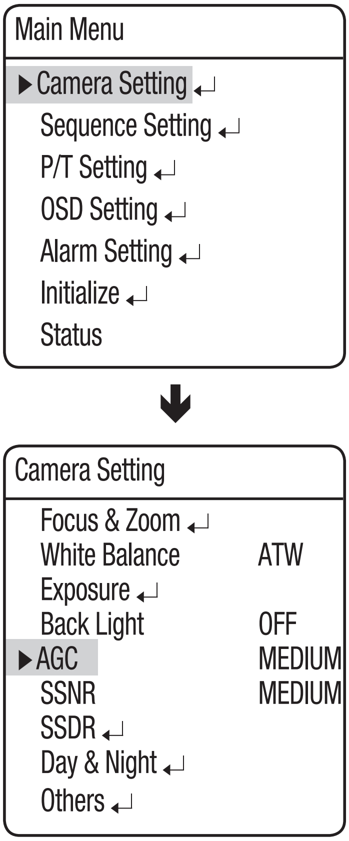
- Four-direction Joystick Controls :
  Moving the joystick in all four directions—upward, downward, left, and right—adjusts the location and size of a selected area.
- Zoom Control :
  - Zoom Tele : Enlarges the size of a selected area.
  - Zoom Wide : Reduces the size of a selected area.



AGC(Auto Gain Control)

AGC (Automatic Gain Control) adjusts the camera's gain control and the screen brightness if the camera has captured an object under low-light conditions.

- **OFF:**
  AGC does not function.
- **LOW/MEDIUM/HIGH:**
  As the level increases to HIGH, brighter the captured screen in a dark lighting.
- **MANUAL:**
  AGC can be fine tuned by adjusting the level (5dB ~ 41dB).



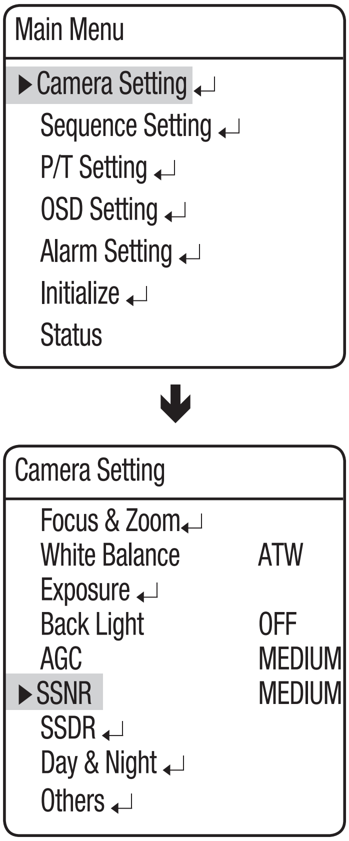
Main Menu
▶Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status

Camera Setting
Focus & Zoom ↵
White Balance ATW
Exposure ↵
Back Light OFF
▶AGC MEDIUM
SSNR MEDIUM
SSDR ↵
Day & Night ↵
Others ↵

SSNR(Samsung Super Noise Reduction)

SSNR significantly reduces the amount of low luminance noise.

- OFF : Disables the noise reduction function.
- LOW : Reduces only a small amount of noise, but generates almost no afterimage.
- MEDIUM : The most commonly used mode. Reduces a suitable amount of noise while generating a subtle afterimage.
- HIGH : Reduces noise significantly, but generates obvious afterimages.



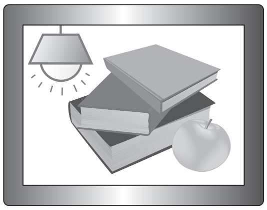
Main Menu
▶Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status

Camera Setting
Focus & Zoom↵
White Balance ATW
Exposure ↵
Back Light OFF
AGC MEDIUM
▶SSNR MEDIUM
SSDR ↵
Day & Night ↵
Others ↵

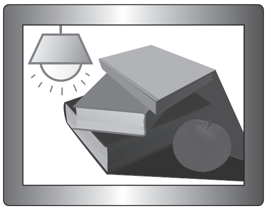
■ SSNR is not available if AGC is set to OFF or MANUAL.

SSDR(Samsung Super Dynamic Range)

SSDR illuminates darker spots of an image while retaining the same light level for brighter spots to even out the overall brightness of the image with high contrast between bright and dark spots.

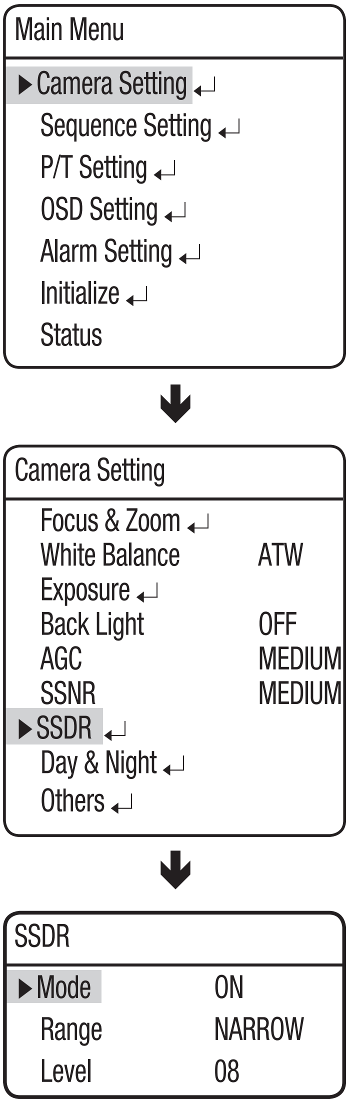


SSDR ON



SSDR OFF

- Mode : Enables or disables SSDR.
- Range : Defines a range of SSDR.
- Level : Changes the contrast between bright and dark spots by the level.



Main Menu

▶Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status

Camera Setting

Focus & Zoom ↵
White Balance ATW
Exposure ↵
Back Light OFF
AGC MEDIUM
SSNR MEDIUM
▶SSDR ↵
Day & Night ↵
Others ↵

SSDR

▶Mode ON
Range NARROW
Level 08

Day & Night

The Day & Night function allows the camera to switch between the Color and B/W modes.

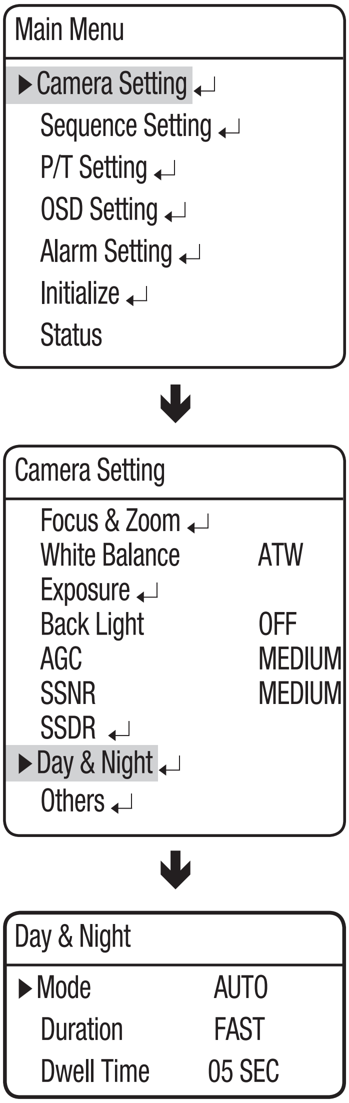
- **MODE**
  - AUTO : Operates in Color mode most times, and switches to B/W mode if a low light level is detected during nighttime.
  - COLOR : Operates in Color mode at all times.
  - B/W : Operates in B/W mode at all times. By using the Burst On/Off sub menu, burst signals can be retained or disabled.

※ If the camera is in B/W mode and connected to equipment that requires external sync through burst signals, set the Burst On/Off option to “On”.

- **Duration :**
  - The camera’s light sensitivity is adjustable as in the chart below. The camera’s ambient light diversion performance may vary depending on its environment.

	Color → B/W	B/W → Color
FAST	2.5Lux	4Lux
SLOW	0.8Lux	6Lux

- **Dwell Time :**
  - The duration of both the lighting conditions can be customized to let the camera divert between the daytime and nighttime settings.



Main Menu

▶Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status

Camera Setting

Focus & Zoom ↵
White Balance ATW
Exposure ↵
Back Light OFF
AGC MEDIUM
SSNR MEDIUM
SSDR ↵
▶Day & Night ↵
Others ↵

Day & Night

▶Mode AUTO
Duration FAST
Dwell Time 05 SEC

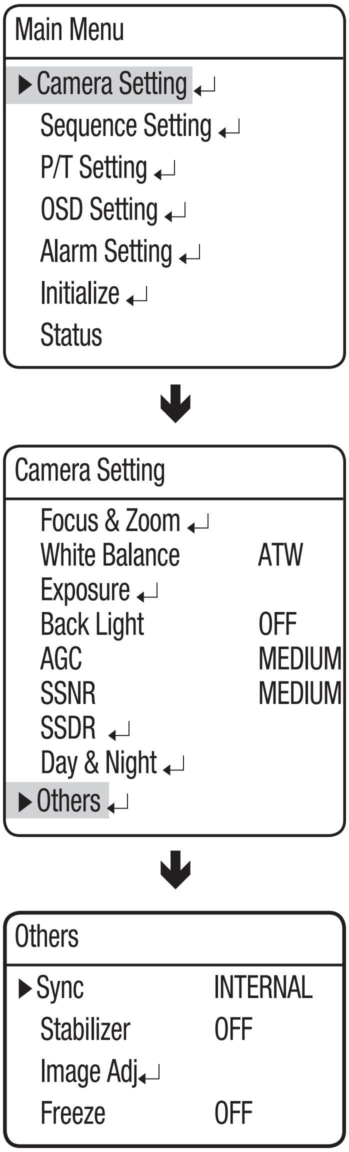
- Auto mode is not available if AGC is set to OFF or MANUAL. Only available if it is set to COLOR or B/W.
- Using B/W mode under sunlight or a halogen lamp may decrease the focusing performance.

Others

- **Sync :** Enables selecting Internal Synchronization or the external Line Lock.
  - INTERNAL : Synchronizes the camera's output timing to the internal crystal.
  - LINE LOCK : Synchronizes the camera's output timing to the AC adapter power to synchronize multiple cameras. This option is useful when using a switch such as Matrix Switcher.
  - LINE LOCK PHASE : Enables setting the adapter's synchronization phase between 0 and 359°.
- **Stabilizer :** The Stabilizer compensates for any small movements of the camera caused by due to the wind and other reasonable causes.

  - The Stabilizer uses the digital zoom and may cause low picture quality.
  - The Stabilizer is disabled if the ambient light is too low.
  - The Stabilizer is disabled if the field of view has very low or no contrast, e.g. The sky or a white wall.

- **Image Adj :**
  - Sharpness : Sharpens outlines of an image.
  - Color : Adjusts the color density of an image.
- **Freeze :** Stops or reanimates an image.



Main Menu
▶Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status

Camera Setting
Focus & Zoom ↵
White Balance ATW
Exposure ↵
Back Light OFF
AGC MEDIUM
SSNR MEDIUM
SSDR ↵
Day & Night ↵
▶Others ↵

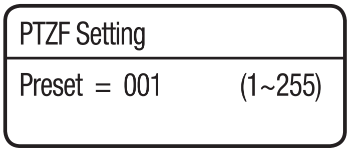
Others
▶Sync INTERNAL
Stabilizer OFF
Image Adj↵
Freeze OFF

Sequence Setting

Preset

This function enables the memorization of a selected location and activates the Pan, Tilt, and Zoom functions at that location. Saved locations can be recalled using the Preset Execute command.

- **Setting Up Preset Numbers :**
  Selecting the Preset Setting menu brings up a screen as shown below. Move the joystick in all four directions to select the desired number.



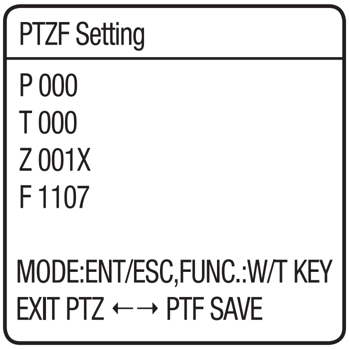
PTZF Setting

Preset = 001 (1~255)

- **Saving Preset Locations :**
  Selecting a preset number and pressing the Enter key redirects the menu to the screen shown below.

  Using the joystick, adjust the location of the Pan and Tilt functions and then set the Zoom and Focus command.

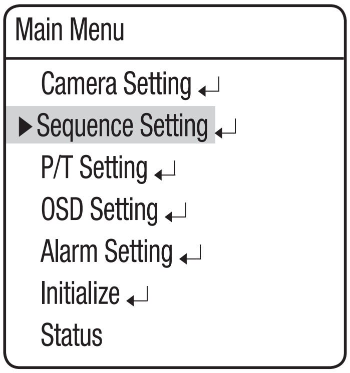
  In Preset Settings, the Zoom and Focus command is controllable only by the Zoom command.



PTZF Setting

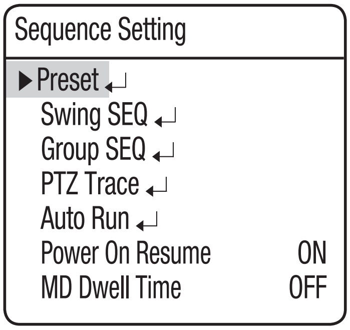
P 000
T 000
Z 001X
F 1107

MODE:ENT/ESC,FUNC.:W/T KEY
EXIT PTZ ←→ PTF SAVE



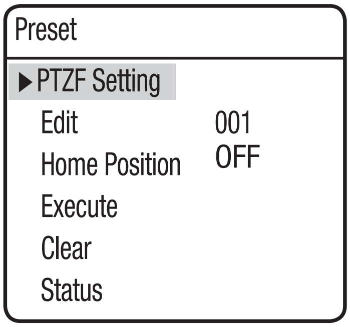
Main Menu

Camera Setting ↵
▶Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status



Sequence Setting

▶Preset ↵
Swing SEQ ↵
Group SEQ ↵
PTZ Trace ↵
Auto Run ↵
Power On Resume ON
MD Dwell Time OFF

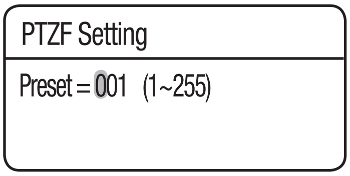


Preset

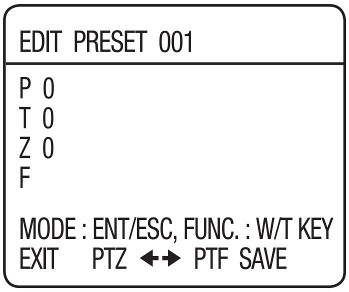
▶PTZF Setting
Edit 001
Home Position OFF
Execute
Clear
Status

◈ PTZF Setting (SCU-VAC/VAC1)

1. If you open the PTZF setup menu, you will see the following window. You can use the joystick to select a desired number.
2. Select a preset number and press ENTER. You will move to the setup screen.
   Using the joystick, adjust the location of the Pan and Tilt functions and then set the Zoom and Focus command.
   In Preset Settings, the Zoom and Focus command is controllable only by the Zoom command.
   For switching modes, refer to the menu bar in the bottom.



```
PTZF Setting
Preset = 001  (1~255)
```

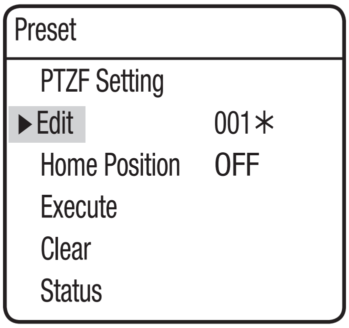


```
EDIT  PRESET  001
P  0
T  0
Z  0
F
MODE : ENT/ESC, FUNC. : W/T KEY
EXIT     PTZ  ←→  PTF  SAVE
```

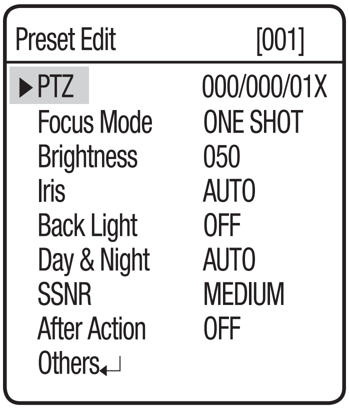
◈ Edit

With this feature, you can edit or save the video-related settings for each preset of the camera.

- Focus Mode : Refer to the section entitled Setting Up Your Camera.
- Brightness : Refer to the section entitled Setting Up Your Camera.
- Iris : Refer to the section entitled Setting Up Your Camera.
- Back Light : Refer to the section entitled Setting Up Your Camera.
- Day & Night : Refer to the section entitled Setting Up Your Camera.
- SSNR : Refer to the section entitled Setting Up Your Camera.
- After Action : Enables setting up an automatic action after the camera arrives at a selected preset location.
  MD : Commands the camera to perform the Motion Detection function. If Focus mode is set to Auto, the MD function may not work properly in a challenging environment.
  OFF : Select this when no action is desired.
- Others : You can set AGC, Stabilizer, SSDR, Shutter, Sens-Up and White Balance functions. For terms related to settings, refer to the camera settings commands.

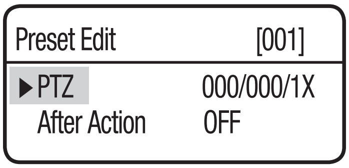


```
Preset
   PTZF Setting
 ▶Edit              001*
   Home Position    OFF
   Execute
   Clear
   Status
```



```
Preset Edit                [001]
 ▶PTZ               000/000/01X
   Focus Mode       ONE SHOT
   Brightness       050
   Iris             AUTO
   Back Light       OFF
   Day & Night      AUTO
   SSNR             MEDIUM
   After Action     OFF
   Others↵
```

- MD Function’s Prerequisite when using SCU-VAC/VAC1 (SCB-3000) : Set Alarm Out of Camera Setting – Open Camera Menu – Special Intelligence menu to ON.
- For SCU-VAC/VAC1, the MD function will be activated 1.5 seconds after you have moved to the preset position.



Preset Edit [001]
▶PTZ 000/000/1X
After Action OFF

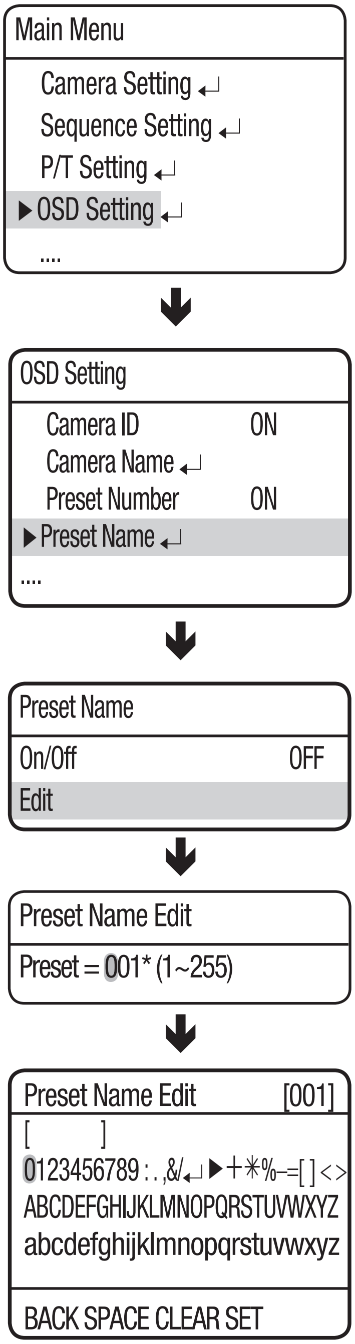
- For SCB-3000
  - The MD function will operate normally after 1.5 seconds of system stabilization and 5 seconds of intelligence stabilization.
  - If using Group SEQ, set the dwell time to at least 8 seconds.
- MD restrictions according to the box camera module
  For SCU-VAC/VAC1, the MD function is the only after-action.
  - SHC-745 : Only motion detection is available.
  - SCB-3000 : If you come to use MD at the preset point while in intelligence mode, the current Intelligence mode will be deactivated.
  - SCB-4000 : If you come to use MD at the preset point while using “Advanced” of the intelligence functions, the current “Advanced” function will stay active.

※ The PTZ menu may be displayed “PT”, depending on the lens.

◈ Preset Name Setting

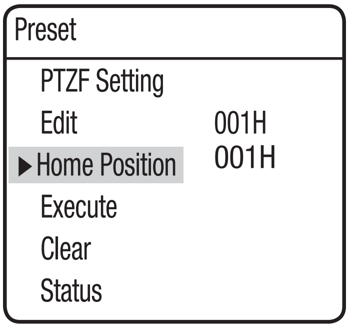
Using this function, you can add names to preset locations. up to 12 characters.

Once a name is entered, use the joystick and the Enter key to perform the Set command and save the name.


Main Menu
Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
▶ OSD Setting ↵
....
OSD Setting
Camera ID ON
Camera Name ↵
Preset Number ON
▶ Preset Name ↵
....
Preset Name
On/Off OFF
Edit
Preset Name Edit
Preset = 001* (1~255)
Preset Name Edit [001]
[ ]
0123456789 : . ,&/↵▶+✳%–=[ ]<>
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
BACK SPACE CLEAR SET

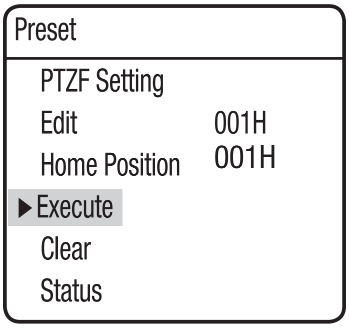
◈ Home Position

Sets one of the currently configured preset positions as the home position.


Preset
PTZF Setting
Edit 001H
▶ Home Position 001H
Execute
Clear
Status

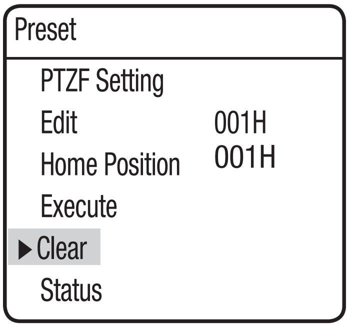
◈ Execute

Recalls a saved preset location.
While in Sequence mode operation, the actual movement can be slower than the specified when moving the camera in the direction of Pan and Tilt at the same time.


Preset
PTZF Setting
Edit 001H
Home Position 001H
▶ Execute
Clear
Status

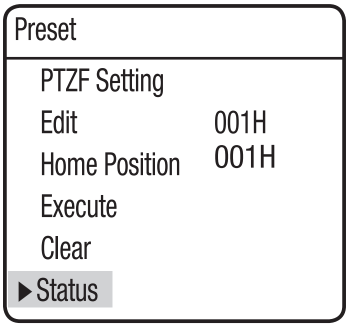
◈ Clear

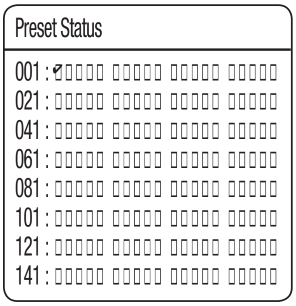
Deletes the selected preset location.


Preset
PTZF Setting
Edit 001H
Home Position 001H
Execute
▶ Clear
Status

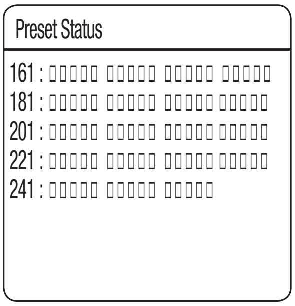
◈ Status

Opens a map of saved preset locations.
An area saved as a preset location is displayed with the '**v**' icon.


Preset
PTZF Setting
Edit 001H
Home Position 001H
Execute
Clear
▶ Status



```
Preset Status
001 : ☑□□□□ □□□□□ □□□□□ □□□□□
021 : □□□□□ □□□□□ □□□□□ □□□□□
041 : □□□□□ □□□□□ □□□□□ □□□□□
061 : □□□□□ □□□□□ □□□□□ □□□□□
081 : □□□□□ □□□□□ □□□□□ □□□□□
101 : □□□□□ □□□□□ □□□□□ □□□□□
121 : □□□□□ □□□□□ □□□□□ □□□□□
141 : □□□□□ □□□□□ □□□□□ □□□□□
```

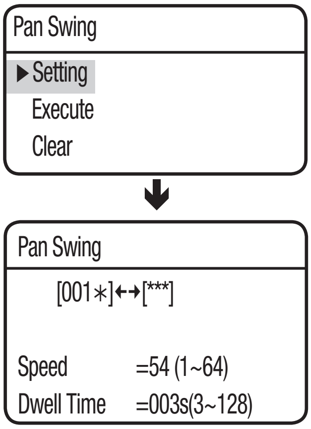


```
Preset Status
161 : □□□□□ □□□□□ □□□□□ □□□□□
181 : □□□□□ □□□□□ □□□□□ □□□□□
201 : □□□□□ □□□□□ □□□□□ □□□□□
221 : □□□□□ □□□□□ □□□□□ □□□□□
241 : □□□□□ □□□□□ □□□□□
```

Swing SEQ

The Swing function commands the camera to move between 2 selected locations, monitoring the route.

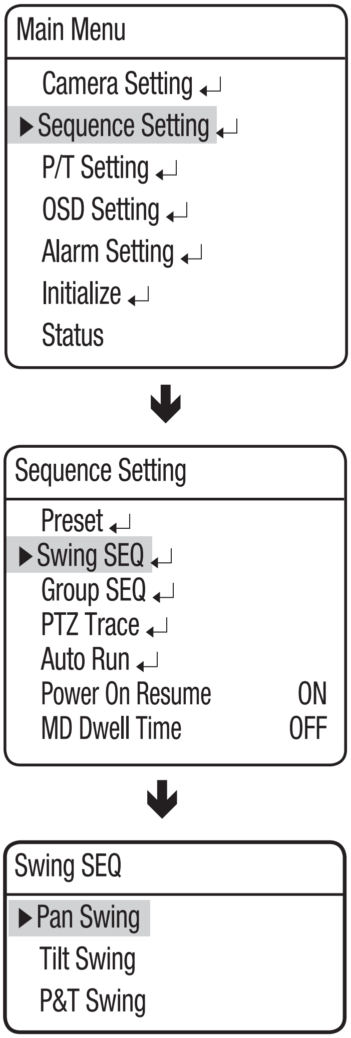
- **Pan Swing :**
  Activates the Pan function for the Swing operation.
- **Tilt Swing :**
  Activates the Tilt function for the Swing operation.
- **P&T Swing :**
  Activates both the Pan and Tilt functions for the Swing operation.
- **Swing Setting/Execute/Clear**
  Activates both the Pan and Tilt functions for the Swing operation.


Pan Swing
▶Setting
Execute
Clear
Pan Swing

[001*]↔[***]

Speed =54 (1~64)

Dwell Time =003s(3~128)


Main Menu
Camera Setting ↵
▶Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status
Sequence Setting
Preset ↵
▶Swing SEQ ↵
Group SEQ ↵
PTZ Trace ↵
Auto Run ↵
Swing SEQ
▶Pan Swing
Tilt Swing
P&T Swing

Power On Resume ON

MD Dwell Time OFF

Select 2 preset locations by using the joystick.

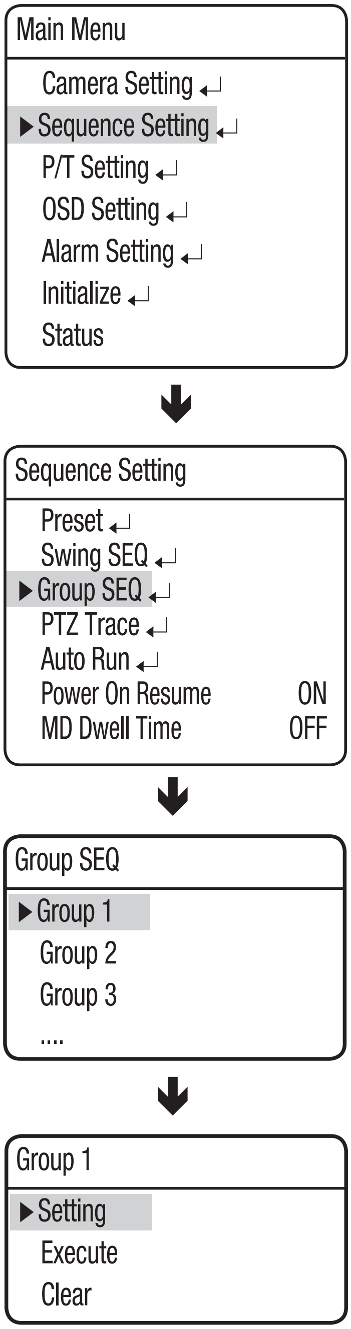
Speed indicates the camera's movement speed. DWELL TIMET indicates the camera's duration of stay at a preset location.

- Execute: Executes the Swing operation.
- Clear: Deletes data in the Swing memory.

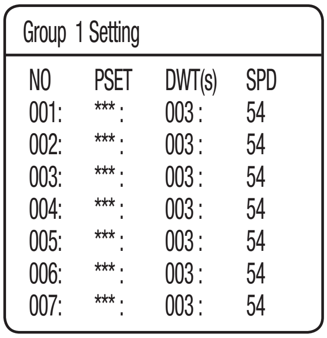
■ While in Sequence mode operation, the actual movement can be slower than the specified when moving the camera in the direction of Pan and Tilt at the same time.

Group SEQ

Selecting Group SEQ recalls a group of multiple preset locations in a consecutive manner. Up to 6 groups can be defined and up to 255 presets can be memorized for each group.


Main Menu
Camera Setting
▶Sequence Setting
P/T Setting
OSD Setting
Alarm Setting
Initialize
Status
Sequence Setting
Preset
Swing SEQ
▶Group SEQ
PTZ Trace
Auto Run
Power On Resume ON
MD Dwell Time OFF
Group SEQ
▶Group 1
Group 2
Group 3
....
Group 1
▶Setting
Execute
Clear

- **Setting :**
  Using the joystick,enter desired preset numbers into the PSET section. DWT indicates the camera's duration of stay at a preset location. SPD shows the camera's movement speed by 64 different levels.



Group 1 Setting

NO	PSET	DWT(s)	SPD
001:	*** :	003 :	54
002:	*** :	003 :	54
003:	*** :	003 :	54
004:	*** :	003 :	54
005:	*** :	003 :	54
006:	*** :	003 :	54
007:	*** :	003 :	54

- **Execute :**
  Executes the group operation.
- **Clear :**
  Deletes the selected group.

■ While in Sequence mode operation, the actual movement can be slower than the specified when moving the camera in the direction of Pan and Tilt at the same time.

PTZ Trace

Maximum 4 patterns of the manual operation paths (for Pan, Tilt, Zoom and Focus) are memorized and replayed.

- **Replay :**

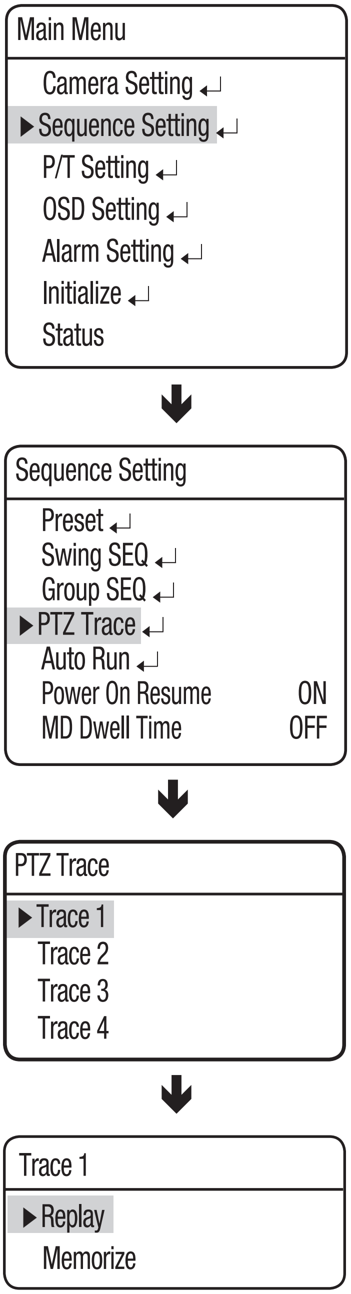
  Replays a route saved by the Trace function. You can stop replay by using the MENU (used for OSD menu) button.

- **Memorize :**

  The time for storing the event differs depending on the complexity of PTZ operations of your choice. When the memory is full, any further storing will be stopped.
  You can stop replay by using the MENU (used for OSD menu) button.

※ Using other protocols

Protocol	Representative Model	Stop saving the trace
PELCO-D/P	KDB300A	Ack, Iris Open
SAMSUNG-E	SSC-5000	OSD ON, Iris Open
PANASONIC	WV-CU161C	OSD ON
VICON	V1300X-DVC	Iris Open
HONEYWELL	HTX-3000	Iris Open
AD		OSD ON, Iris Open
GE	KTD-405	Iris Open
Bosch		Iris Open

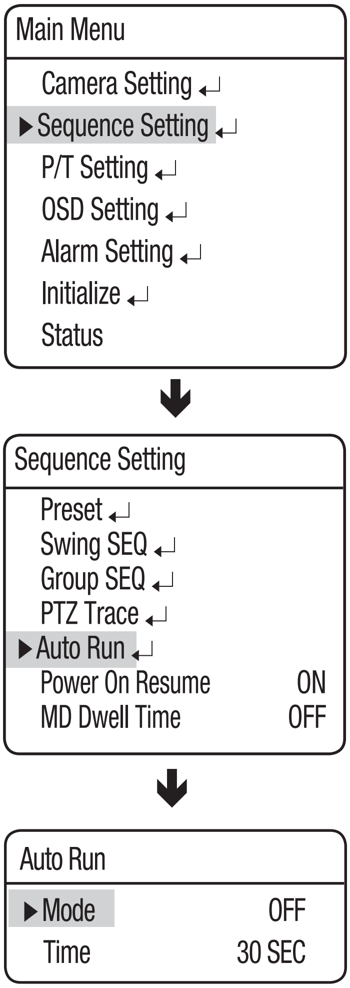

Main Menu
Camera Setting ↵
▶ Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status
Sequence Setting
Preset ↵
Swing SEQ ↵
Group SEQ ↵
▶ PTZ Trace ↵
Auto Run ↵
Power On Resume ON
MD Dwell Time OFF
PTZ Trace
▶ Trace 1
Trace 2
Trace 3
Trace 4
Trace 1
▶ Replay
Memorize

Auto Run

If there is no controller operation by the user for a certain time, the sequence operation designated by the user will be executed.

- **Mode :**
  - HOME : Auto run Home Position (Refet to the Preset Menu.)
  - PRESET : Auto run a selected preset number.
  - SWING : Auto run a selected Swing mode.
  - GROUP : Auto run a selected Group mode.
  - TRACE : Auto run a selected trace mode.
  - A.PAN : Auto run a 360-degree pan. To activate the panning command, you need to set up the camera's tilt angle and auto pan speed manually.
  - SCHEDULE : Execute Auto Run on the selected day of the week.
- **Time :**

  Enables setting up an Auto Run duration. (The duration can be 1~60 seconds, or 1~60 minutes.)


Main Menu
Camera Setting ↵
▶Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status
Sequence Setting
Preset ↵
Swing SEQ ↵
Group SEQ ↵
PTZ Trace ↵
▶Auto Run ↵
Auto Run

Power On Resume ON
MD Dwell Time OFF

▶Mode OFF
Time 30 SEC

Power On Resume and MD Dwell Time

- **Power On Resume :**

  This is useful when the power is disconnected and reconnected due to power failures or other power interruptions.

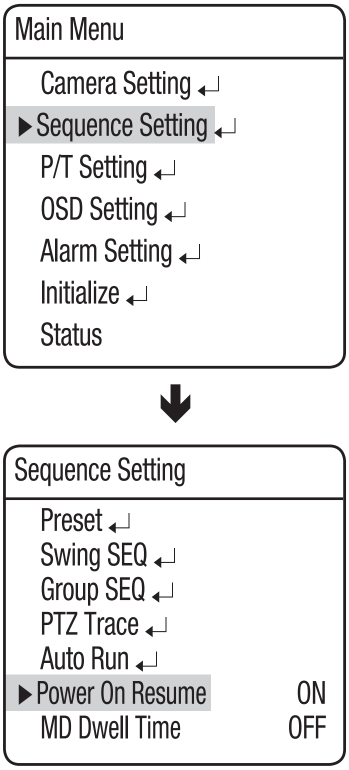
  If the camera was performing a sequence action prior to a power disconnection, the camera automatically resumes the action when the power is reconnected.

- **MD Dwell Time (SCU-2370/VAC/VAC1) :**

  When Motion Detection under the Preset Edit menu is selected, MD Dwell Time performs the Group function.

  While the camera is performing a sequence action,
  if motion is detected from a selected preset location, the camera pauses the sequence action operation and starts monitoring the location instead for a duration that is set under the MD Dwell Time menu.

  If the motion is no longer detectable or the duration expires, the camera aborts the monitoring operation and then resumes the sequence action.



Main Menu
Camera Setting ↵
▶Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status

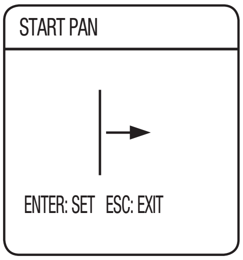
Sequence Setting
Preset ↵
Swing SEQ ↵
Group SEQ ↵
PTZ Trace ↵
Auto Run ↵
▶Power On Resume ON
MD Dwell Time OFF

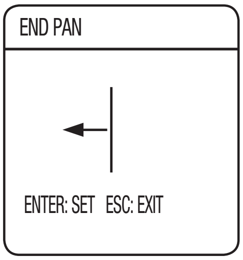
P/T Setting

Pan/Tilt Limit

The moving ranges in the Pan/Tilt directions can be limited.

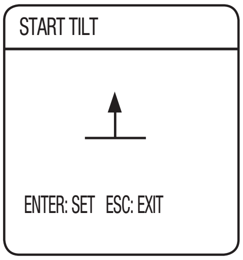
- **Position :**
  Selecting the Position menu brings up the following screen if it is for the Pan Limit setting. Move the joystick left and right to select a movement range from the starting point to the end.

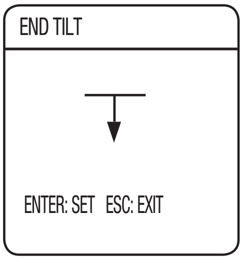

START PAN
ENTER: SET ESC: EXIT


END PAN
ENTER: SET ESC: EXIT

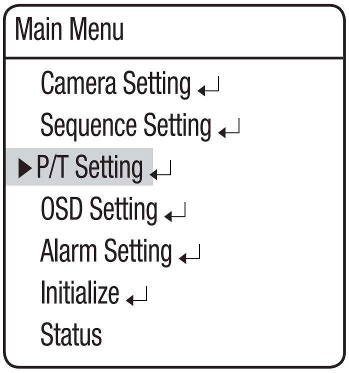
The following picture shows the Tilt Limit setting.

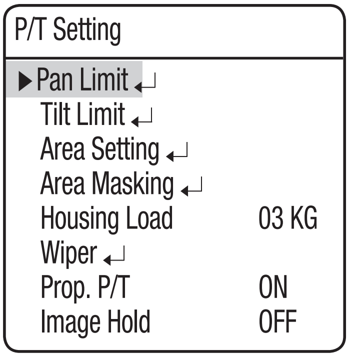
Move the joystick left and right to select a movement range from the starting point to the end.


START TILT
ENTER: SET ESC: EXIT


END TILT
ENTER: SET ESC: EXIT

- **ON/OFF :**
  Enable/disable the Pan/Tilt Limit settings.

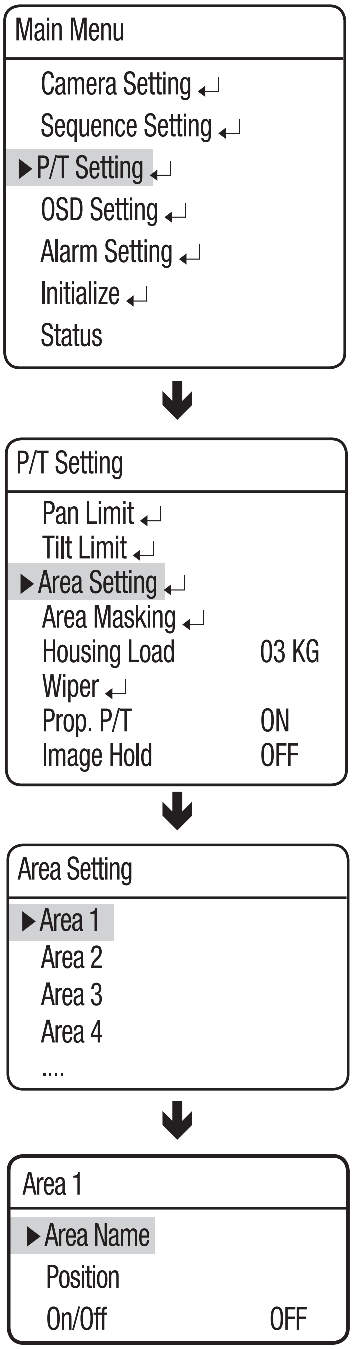

Main Menu
Camera Setting ↵
Sequence Setting ↵
▶P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status


P/T Setting
▶Pan Limit ↵
Tilt Limit ↵
Area Setting ↵
Area Masking ↵
Wiper ↵

Housing Load 03 KG
Prop. P/T ON
Image Hold OFF

Area Setting

The Area Setting menu enables selecting certain locations in the course of the Pan and Tilt operation, and then display the areas with the OSD (On Screen Display) texts when the camera passes through them. Up to 8 areas can be selected.



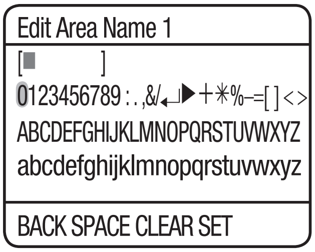
Main Menu
Camera Setting ↵
Sequence Setting ↵
▶P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status

P/T Setting
Pan Limit ↵
Tilt Limit ↵
▶Area Setting ↵
Area Masking ↵
Housing Load 03 KG
Wiper ↵
Prop. P/T ON
Image Hold OFF

Area Setting
▶Area 1
Area 2
Area 3
Area 4
....

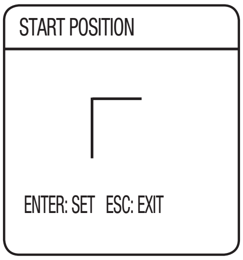
Area 1
▶Area Name
Position
On/Off OFF

- **Area Name :**
  You can add names to selected areas. Names can be up to 12 characters and can be entered via the joystick and the Enter key. Once a name is entered, use the joystick and the Enter key to perform the Set command and save the name.

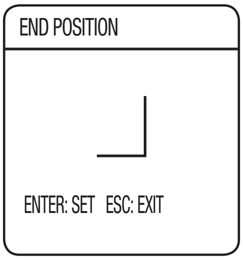


Edit Area Name 1
[■]
0123456789 : . ,&/↵▶+✳%–=[ ]<>
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
BACK SPACE CLEAR SET

- **Position :**
  As shown in the picture below, move the joystick to select the upper left corner and lower right corner of an area.



START POSITION
ENTER: SET ESC: EXIT

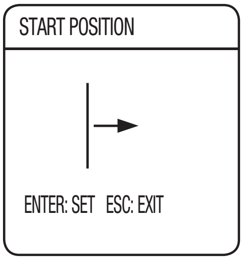


END POSITION
ENTER: SET ESC: EXIT

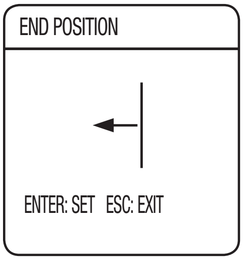
The effective positioning range is between -45° and 40° in the tilting angle at the zoom factor of 1x.

- **ON/OFF :**
  Cancels or activates the display function of selected areas.

- Area naming for SCU-9051/VAC/VAC1



START POSITION
ENTER: SET ESC: EXIT



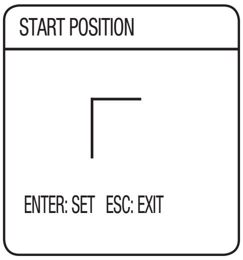
END POSITION
ENTER: SET ESC: EXIT

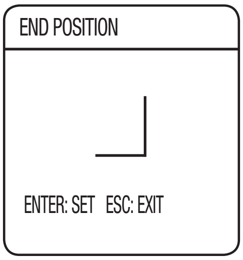
SCU-VAC/VAC1/9051 supports only the pan positioning regardless of the tilting angle.

Area Masking (SCU-2370/VAC/VAC1)

If a monitoring location includes a highly private area, the area can be selectively excluded from monitoring.

- **Position :**
  As shown in the picture below, move the joystick to select the upper left corner and lower right corner of an area.

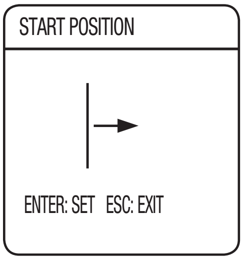

START POSITION
ENTER: SET ESC: EXIT

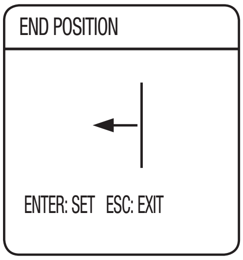

END POSITION
ENTER: SET ESC: EXIT

The effective positioning range is between -45° and 40° in the tilting angle at the zoom factor of 1x.

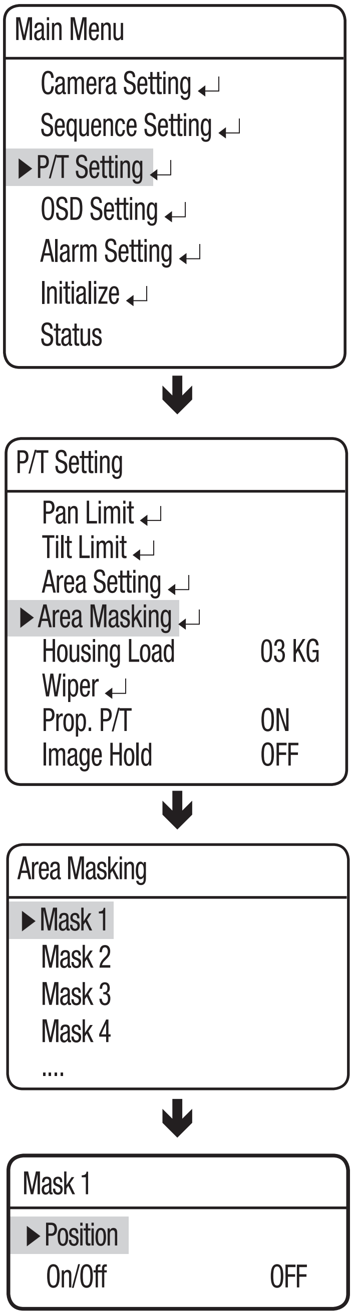
- **ON/OFF :**
  Cancels or activates the Area Masking function.

■ Area masking setting for SCU-VAC/VAC1


START POSITION
ENTER: SET ESC: EXIT


END POSITION
ENTER: SET ESC: EXIT

If the custom area includes the masking settings, the entire screen will be masked.



Main Menu

Camera Setting ↵
Sequence Setting ↵
▶P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status

P/T Setting

Pan Limit ↵
Tilt Limit ↵
Area Setting ↵
▶Area Masking ↵
Housing Load 03 KG
Wiper ↵
Prop. P/T ON
Image Hold OFF

Area Masking

▶Mask 1
Mask 2
Mask 3
Mask 4
....

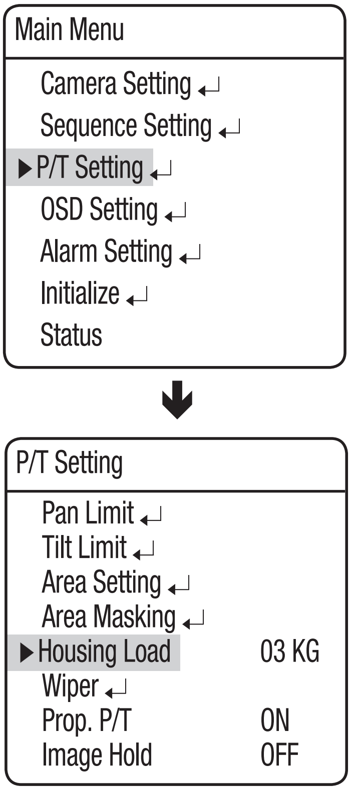
Mask 1

▶Position
On/Off OFF

Housing Load

You can select a housing load of the camera module that will be installed on the housing.

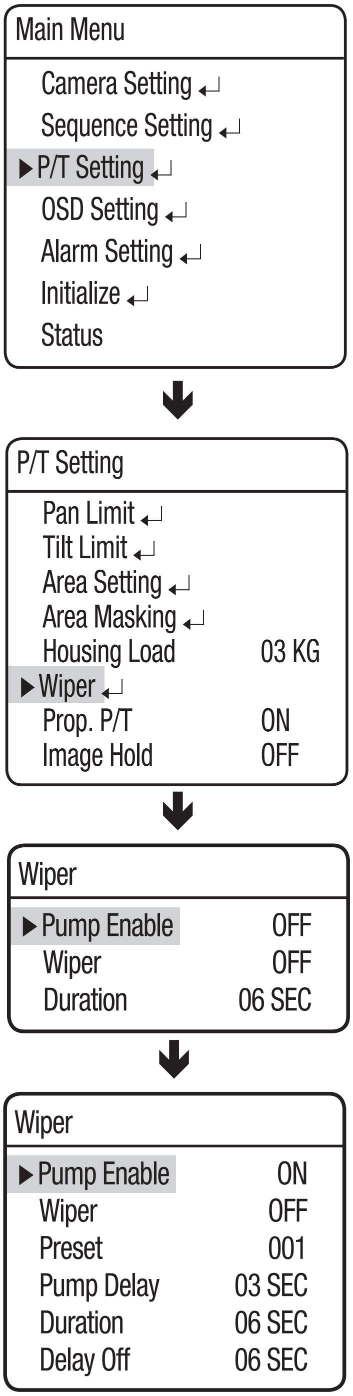
- Pan/Tilt movement speed depends on the camera module’s weight. For optimal speed control, set the weight of the camera module between 3 kg ~ 10 kg.


Main Menu
Camera Setting ↵
Sequence Setting ↵
▶P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status
P/T Setting
Pan Limit ↵
Tilt Limit ↵
Area Setting ↵
Area Masking ↵
▶Housing Load 03 KG
Wiper ↵
Prop. P/T ON
Image Hold OFF

Wiper (SCU-2370/VAC/VAC1)

You can use Wiper to wipe out the front glass of the housing so as to secure a clear view.

To activate Wiper, set the menus below to your preference.



Main Menu
- Camera Setting ↵
- Sequence Setting ↵
- ▶P/T Setting ↵
- OSD Setting ↵
- Alarm Setting ↵
- Initialize ↵
- Status

P/T Setting
- Pan Limit ↵
- Tilt Limit ↵
- Area Setting ↵
- Area Masking ↵
- Housing Load 03 KG
- ▶Wiper ↵
- Prop. P/T ON
- Image Hold OFF

Wiper
- ▶Pump Enable OFF
- Wiper OFF
- Duration 06 SEC

Wiper
- ▶Pump Enable ON
- Wiper OFF
- Preset 001
- Pump Delay 03 SEC
- Duration 06 SEC
- Delay Off 06 SEC

- **Pump Enable:**
  Activate or deactivate the pump function.
  - Enable On: Activate the pump function that is connected to the wiper. Creates detailed submenu items related to the Pump function.
  - Enable Off: Deactivate the pump function that is connected to the wiper.

  ※ With Enable On, the Aux output function in Alarm Setting will be disabled.

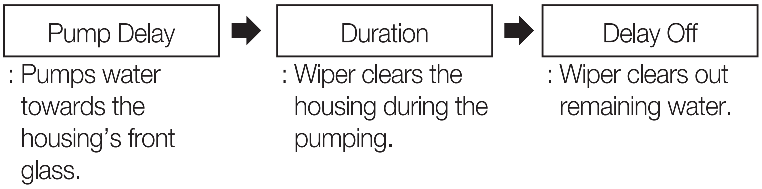
- **Wiper :**
  Activate or deactivate the wiper function.

- **Preset :**
  Select a Preset run with Wiper function.
  Set the preset to face the pump's water outlet.

- **Pump Delay :**
  Operating time of the pump. (1 ~ 30 seconds)

- **Duration :**
  Operating time of the pump and wiper. (6 ~ 30 seconds)
  If the pump is turned off, means operating time of the wiper.

- **Duration Off :**
  Operating time of the wiper. (6 ~ 30 seconds)



: Pumps water towards the housing's front glass.

: Wiper clears the housing during the pumping.

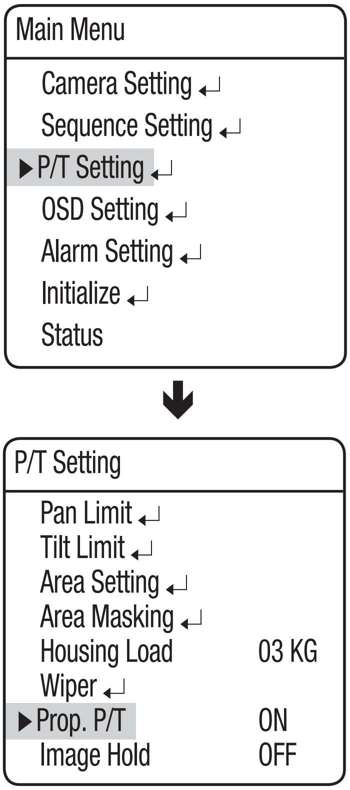
: Wiper clears out remaining water.

(Wiper & Pump Operation)

Prop. P/T (SCU-2370/VAC1)

This commands the camera to change the Pan and Tilt speed automatically according to the current zoom ratio. Moving the joystick clockwise (Tele) slows down and counterclockwise (Wide) accelerates the Pan and Tilt speed, allowing detailed adjustments.

Turning this “Off” executes the function the optical 1x zoom speed regardless of how far the lens is zoomed in.

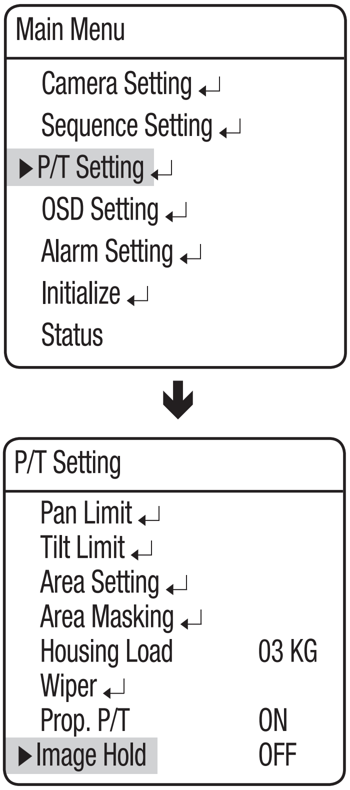


Main Menu
Camera Setting ↵
Sequence Setting ↵
▶P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status

P/T Setting
Pan Limit ↵
Tilt Limit ↵
Area Setting ↵
Area Masking ↵
Housing Load 03 KG
Wiper ↵
▶Prop. P/T ON
Image Hold OFF

Image Hold (SCU-2370)

While in Group Trace, this will display still image of the last preset video until the camera moves to the next preset position.
This is useful to help the screen observer keep sharp eyes and to monitor multiple locations within a network.



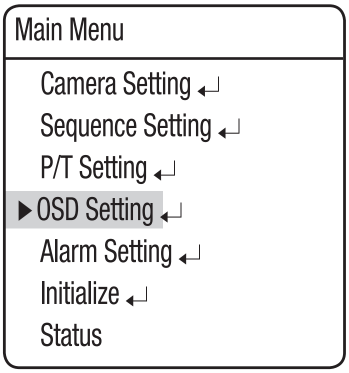
Main Menu
Camera Setting ↵
Sequence Setting ↵
▶P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status

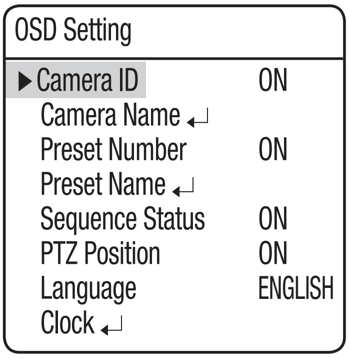
P/T Setting
Pan Limit ↵
Tilt Limit ↵
Area Setting ↵
Area Masking ↵
Housing Load 03 KG
Wiper ↵
Prop. P/T ON
▶Image Hold OFF

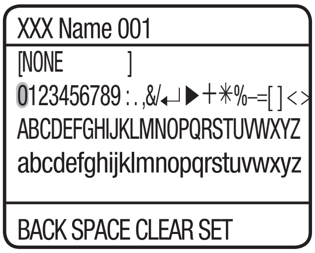
OSD SETTING

In this menu, you can configure the OSD (On Screen Display) settings.

- **Camera ID :**
  Displays or hides Camera ID in the upper left of the screen.
- **Camera Name :**
  Add a name to the camera. (First check the Note.)
- **Preset Number :**
  Displays or hides Preset Numbers on the screen.
- **Preset Name :**
  Add names to preset locations. (First check the Note.)
- **Sequence Status :**
  Displays or hides the status of a sequence action that is in progress.
- **PTZ Position :**
  Displays or hides the status of the Pan, Tilt, and Zoom operation that is in progress.
- **Language :**
  Enables changing the system language. This camera supports English, Chinese, French, German, Spanish, Italian and Portuguese.
- **Clock**
  Specify the time and date settings to your preference.


Main Menu
Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
▶OSD Setting ↵
Alarm Setting ↵
Initialize ↵
Status

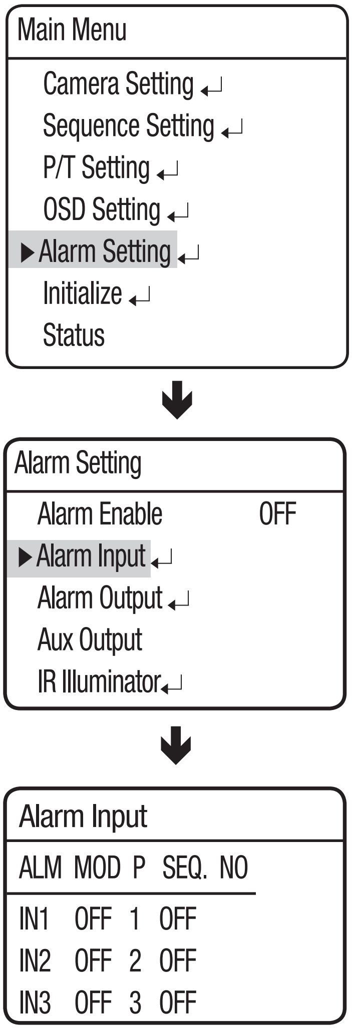

OSD Setting
▶Camera ID ON
Camera Name ↵
Preset Number ON
Preset Name ↵
Sequence Status ON
PTZ Position ON
Language ENGLISH
Clock ↵


XXX Name 001
[NONE]
0123456789 : . ,&/↵▶+*%–=[ ]<>
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
BACK SPACE CLEAR SET

- When selecting the Camera Name and Preset Name, the screen displays the Left keypad.
- Names can be up to 12 characters and can be entered via the joystick and the Enter key. Once a name is entered, use the joystick and the Enter key to perform the Set command and save the name.

ALARM SETTING

Setting Up Alarm Input



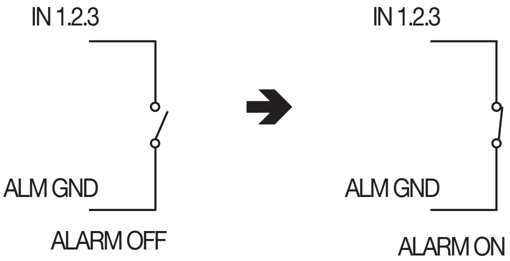
```
Main Menu
  Camera Setting ↵
  Sequence Setting ↵
  P/T Setting ↵
  OSD Setting ↵
 ▶Alarm Setting ↵
  Initialize ↵
  Status
```

```
Alarm Setting
  Alarm Enable          OFF
 ▶Alarm Input ↵
  Alarm Output ↵
  Aux Output
  IR Illuminator↵
```

```
Alarm Input
ALM  MOD  P  SEQ.  NO
IN1  OFF  1  OFF
IN2  OFF  2  OFF
IN3  OFF  3  OFF
```

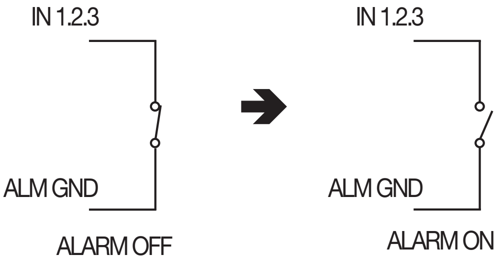
- **Alarm Enable :**
  On/Off : Enables or disables the Alarm function.
- **MOD**
  Enables selecting an Alarm Input method.

- NO (Normally Open)


IN 1.2.3
ALM GND
ALARM OFF
IN 1.2.3
ALM GND
ALARM ON

< Alarm input when N.O. is enabled >

- NC (Normally Closed)


IN 1.2.3
ALM GND
ALARM OFF
IN 1.2.3
ALM GND
ALARM ON

< Alarm input when N.C. is enabled >

■ As shown in the picture above, the Alarm Input must be entered with the Open or Closed switch signals. Supplying power without entering the signals may damage the product.

- **P(Priority) :**

  Set the priority of Alarm Inputs. If more than one alarm is simultaneously activated, the alarm with the highest priority activates before the others. Once the alarm is canceled, the next highest priority alarm activates.

- **SEQ. :**

  Enables setting up a sequence action for the camera in response to an alarm. Available sequence actions are Preset, Swing, Group, Trace and A.Pan.

Alarm Output

- **Setting 1,2 :**

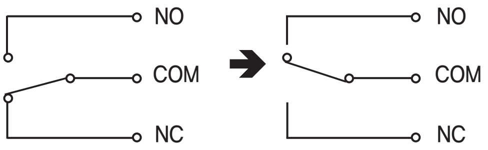
  Enables selecting an Alarm Output method.

  - Each of 1, 2, 3 and MD of the selected item indicates the applicable alarm input and motion detection ports. You can set the alarm output for each of 3 alarm inputs and MD. You can also assign more than one alarm input and MD to one alarm output port.

- **Timer 1, 2 :**

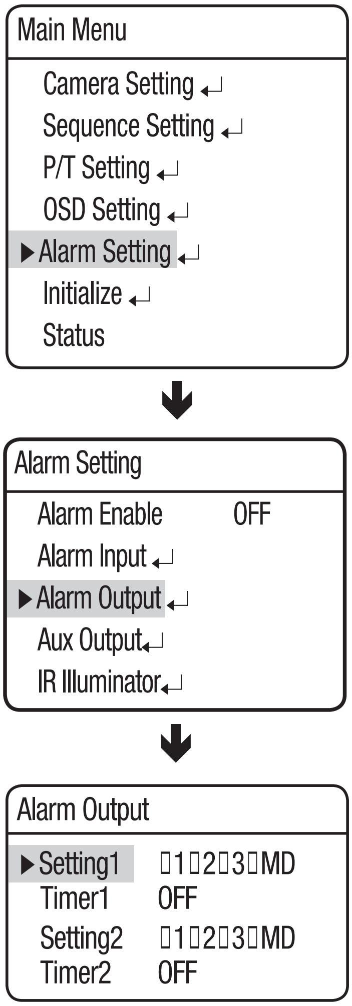
  - On : Retains an alarm output for a set duration from a minimum of 1 second to a maximum of 60 hours upon the alarm occurrence.
  - MOMENT : Retains an alarm output only until the alarm is canceled.

  - The Alarm Output is equipped with a relay circuit. The operation of the alarm output port is as shown in the diagram below. (Based on NO – Normal Open)



Alarm Out OFF

Alarm Out ON



Main Menu

Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
▶Alarm Setting ↵
Initialize ↵
Status

Alarm Setting

Alarm Enable OFF
Alarm Input ↵
▶Alarm Output ↵
Aux Output↵
IR Illuminator↵

Alarm Output

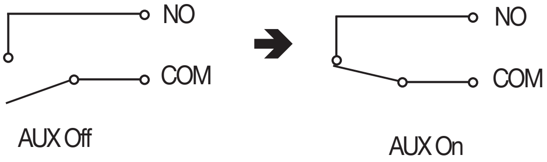
▶Setting1 ☐1☐2☐3☐MD
Timer1 OFF
Setting2 ☐1☐2☐3☐MD
Timer2 OFF

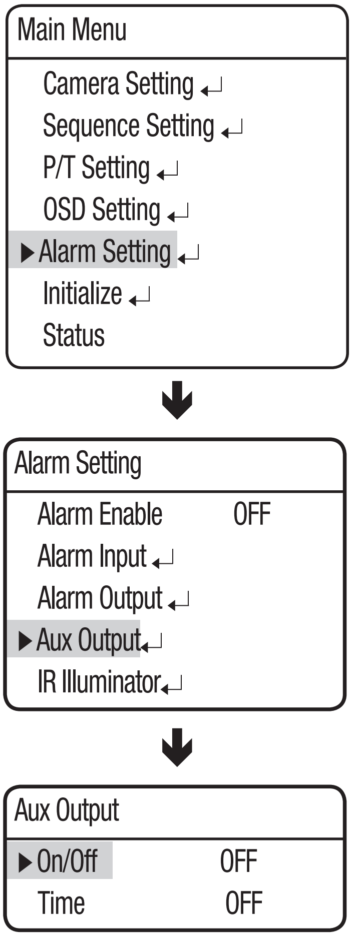
- Connecting the power connector and GND incorrectly to the NC/NO and COM ports may cause a short circuit and fire, damaging the camera.
- The maximum power capacity of the built-in relay is 30VDC/2A, 125VAC/0.5A, and 250VAC/0.25A. Operating the camera beyond the capacity may decrease the camera's lifespan and damage it.

Aux Output

AUX Output menu is to operate the camera's peripheral devices such as lamps and sirens through the controller and switches as well as through network communications.

- **On/Off :**
  Cancels or activates the Aux function.
- **Time :**
  Enables setting up a duration for the Aux output when the Aux command is transmitted from the controller. A duration can be selected from a minimum of 1 second to a maximum of 60 minutes.





Main Menu
Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
▶Alarm Setting ↵
Initialize ↵
Status

Alarm Setting
Alarm Enable OFF
Alarm Input ↵
Alarm Output ↵
▶Aux Output↵
IR Illuminator↵

Aux Output
▶On/Off OFF
Time OFF

- Connecting the power connector and GND incorrectly to the Aux terminal's NO and COM ports may cause a short circuit and fire, damaging the camera.
- The maximum power capacity of the built-in relay is 30VDC/2A, 125VAC/0.5A, and 250VAC/0.25A. Operating the camera beyond the capacity may decrease the camera's lifespan and damage it.

※ The Aux Output of Alarm Setting is not available if Wiper function is set to ON.

IR Illuminator Settings (SCU-2370/VAC/VAC1)

With IR Illuminator, you can control the red-infrared lighting.

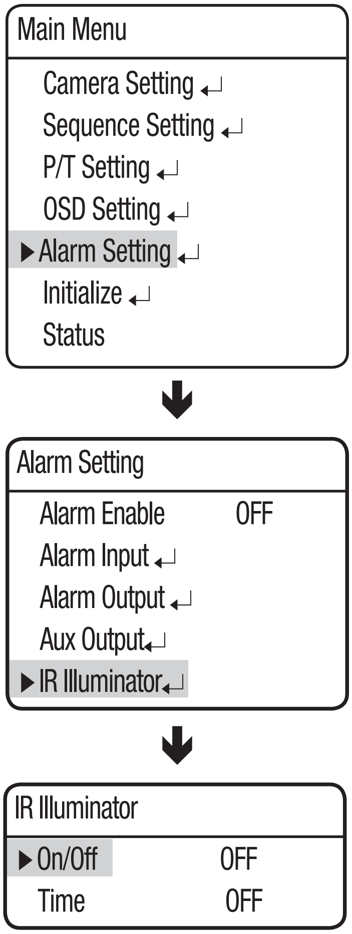
- **On/Off :**

  Activate or deactivate IR Illuminator.

- **Time:**

  Operates the infrared illuminator for the time specified by user (1 second ~ 60 minutes).

■ The infrared illuminator is an optional accessory (sold separately).



Main Menu
Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
▶Alarm Setting ↵
Initialize ↵
Status

Alarm Setting
Alarm Enable OFF
Alarm Input ↵
Alarm Output ↵
Aux Output↵
▶IR Illuminator↵

IR Illuminator
▶On/Off OFF
Time OFF

INITIALIZE

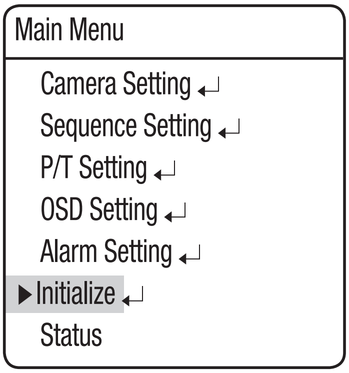
- **Power On Reset :**

  Restarts the camera.

- **Factory Default Set :**

  Enables resetting the camera to its factory default settings. When the mode is selected, all custom data such as preset locations is deleted from the camera.

  Use this function if it is necessary to reset the settings of the camera.

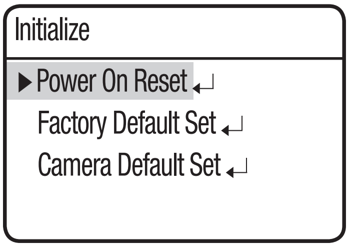


Main Menu
Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
▶Initialize ↵
Status

- **Camera Default Set : (SCU-2370)**

  This mode can be used if the camera module has been replaced and you want to keep the camera's existing settings for the new module.

  To reset the camera, first replace the old module with a new camera module. When the replacement is properly installed, turn on the module, then execute this command.


Initialize
▶Power On Reset ↵
Factory Default Set ↵
Camera Default Set ↵

STATUS

Displays the settings and version of the camera.

- **CAMERA INFO :**

  Display the model and zoom factor of the connected camera.

- **CAMERA VER. :**

  Display the software version of the connected camera.

- **MOTION VER. :**

  Main board F/W version

- **PROTOCAL :**

  Protocol settings

- **CONTROLLER :**

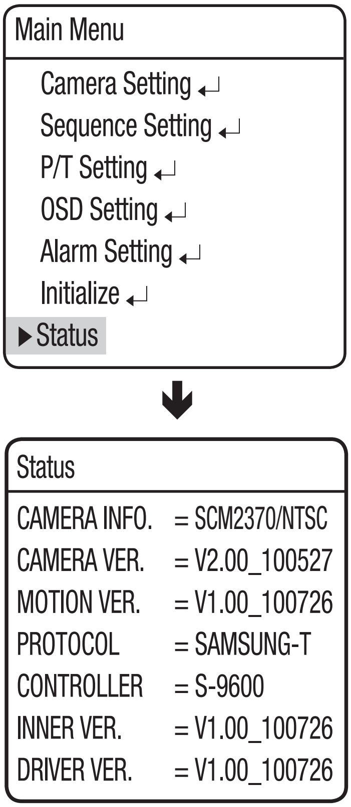
  Communication mode settings

- **INNER VER. :**

  Inner board F/W version

- **DRIVER VER. :**

  Display the DSP F/W version of the main board.


Main Menu
Camera Setting ↵
Sequence Setting ↵
P/T Setting ↵
OSD Setting ↵
Alarm Setting ↵
Initialize ↵
▶Status
Status

CAMERA INFO. = SCM2370/NTSC
CAMERA VER. = V2.00_100527
MOTION VER. = V1.00_100726
PROTOCOL = SAMSUNG-T
CONTROLLER = S-9600
INNER VER. = V1.00_100726
DRIVER VER. = V1.00_100726

TROUBLESHOOTING

If the product does not function properly, please see the below for trouble shooting.

Problem	Cause and Solution	Page
Controller does not work.	▶ Check if the camera and peripheral devices are properly connected.	20
	▶ Verify the setups of ID, protocol, and baud rates.	15~18
No picture is displayed on monitor.	▶ Check if power cable is securely connected to the camera and the monitor. Check if the video cable is properly connected. Consult the operation manual of the system controller connected to the camera.	12~14
	▶ Check if the iris of the lens is closed. Adjust the menu for the iris of the lens.	29
	▶ Check the camera’s fixed shutter speed. Adjust the camera’s shutter menu.	29
The picture is too dark/bright.	▶ Check the camera’s Brightness menu. Adjust the camera’s Brightness menu.	29
The monitor displays a white image.	▶ Check if the iris of the lens is open. Adjust the menu for the iris of the lens.	29
Picture is out of focus.	▶ Check if the cover or the camera lens is dirty or smudged. If it is, clean the dirt off.	-
	▶ Verify the distance between the camera and the subject, as well as the subject’s surroundings. Camera may have difficulty focusing on a subject against a white background.	-
	▶ If Auto Focusing is having difficulty focusing on a particular subject, set Focus Mode to Manual and adjust the focus by yourself.	26~27
	▶ Use the camera’s reset menu to restore the camera settings in order to default.	58
	▶ Adjust Sharpness level.	35
Digital noise appears in picture.	▶ Check if the video cable is properly connected.	-
	▶ Make sure that the power cable and video cable do not exceed the recommended maximum lengths.	19
	▶ Adjust Sharpness level.	36

Problem	Cause and Solution	Page
Picture's colors are not good.	▶ Check the White Balance.	28
	▶ Adjust Color Menu in Image Adj.	36
	▶ Check if the cover or the camera lens is dirty or smudged. If it is, clean the dirt off.	-
The picture is flickering.	▶ Check if the camera is pointing directly at a fluorescent light or sunlight. If so, change the camera's direction to remove the flickering.	-
Afterimages appear in picture.	▶ Check Sens-Up settings.	29
Camera switches between color and B&W modes frequently.	▶ Adjust Duration and Dwell Time in Day & Night menu.	35
Pan, tilt, zoom, and/or focus do not work.	▶ Check if power cable is securely connected to the camera and the monitor. Check if the video cable is properly connected. Consult the operation manual of the system controller connected to the camera.	12~14
	▶ Check if Pan Limit and/or Tilt Limit are set. If so, remove the limit(s).	47
	▶ A motor or the lens may be overheated. If so, contact your service personnel or system provider for assistance.	-
The camera's position differs from the position defined in a preset.	▶ This phenomenon may happen, since the motors have a margin error of ±0.1˚.	-
Sequence configuration of the camera does not work.	▶ Check if Preset or another operation mode has been set.	37~41
Camera suddenly turns on or moves to a preset position by itself.	▶ Check the Auto Run settings. Auto Run puts a camera through a predefined action sequence if the user does not use the Controller to operate the camera for a certain period of time.	44
The camera suddenly resets itself while displaying the black screen.	▶ Such symptoms may occur if the camera's temperature increases from -20º or lower to -20º or higher.	6
"Auto Refresh(Wait)" appears and the camera reboots.	▶ Such symptoms may occur if the camera's temperature increases from -10º or lower to -10º or higher to prevent the malfunction of motor.	-
The screen displays "Invalid RTC".	▶ This happens if no clock setting is made. The warning message will disappear when you have configured the clock setting.	54
"Check System Homing Fail[XY]" appears.	▶ The product initialization has been abnormally finished. ▶ Check if installation site has enough free space for proper product operation. ▶ Do not operate the product by force, turn off and consult your dealer.	-

troubleshooting

Problem	Cause and Solution	Page
When coaxial communication is not available.	▶ Make sure that the camera and monitor are installed within the recommended distance.	-
	▶ Use the video amplifier equivalent to coaxitron if the recommended installation distance is exceeded.	-

Check the Power cord's by periods

• The Power cord's coating has been damaged. **• The power cord is hot to touch when the product is in operation.** **• The power cord gets hot after being folded or pulled on.**	Continuing to use the product when its power cord is damaged constitutes an electrical and fire hazard. The power plug must be removed from the outlet immediately, and a qualified service personnel or your system provider should be contacted for assistance.	-

PRODUCT SPECIFICATIONS

<SCU-2370>

	NTSC	PAL
Imaging Device	1/4" Exview HAD CCD	
TV Standard	NTSC	PAL
Total Pixels	811(H) x 508(V)	795(H) x 596(V)
Effective Pixels	768(H) x 494(V)	752(H) x 582(V)
Scanning System	2:1 Interlace	
Synchronization	Internal / Line Lock	
Horizontal Scan Rate	15.734 KHz	15.625 KHz
Vertical Scan Rate	59.94 Hz	50 Hz
Horizontal Resolution	600 TV Line(Color)/700 TV Line(B/W)	
Min. Illumination	Color: 0.4 Lux/F1.6 (50 IRE) B/W: 0.02 Lux/F1.6 (50 IRE)	
S/N (Y Signal)	52 dB	
Video Output	CVBS:1.0Vp-p/75Ω	
Zoom Ratio	37X(Optical), 16X(Digital)	
Focal Length	3.5~129.5mm (F1.6 ~3.9)	
Min. Object Distance	1,500mm	
Angular Field of view	H : Appr. 55.5°(Wide) to 1.59°(Tele) V : Appr. 42.5°(Wide) to 1.19°(Tele)	
Focus	AUTO / MANUAL / ONE-SHOT	
Zoom Speed	2.8 sec	
IRIS	AUTO/MANUAL	
Lens Initialization	Built-In	
Horizontal Rotation Angle	360° Endless	
Horizontal Rotation Speed	Preset : 0.1°~100°/sec, Manual : 0.1°/sec ~ 30°/sec (Turbo: 100°/sec)	
Vertical Rotation Angle	-85° ~ 40°	
Vertical Rotation Speed	Preset : 0.1°~30°/sec, Manual : 0.1°/sec ~ 30°/sec	
Preset Position	Max. 255 Point	
Preset Accuracy	±0.1°	
Camera ID	255	
Day & Night	AUTO / COLOR / BW	
Backlight	BLC / HLC / OFF	
Motion Detection	ON/OFF	
Stabilizer	ON/OFF	
Privacy Mask	ON/OFF (8 Areas)	

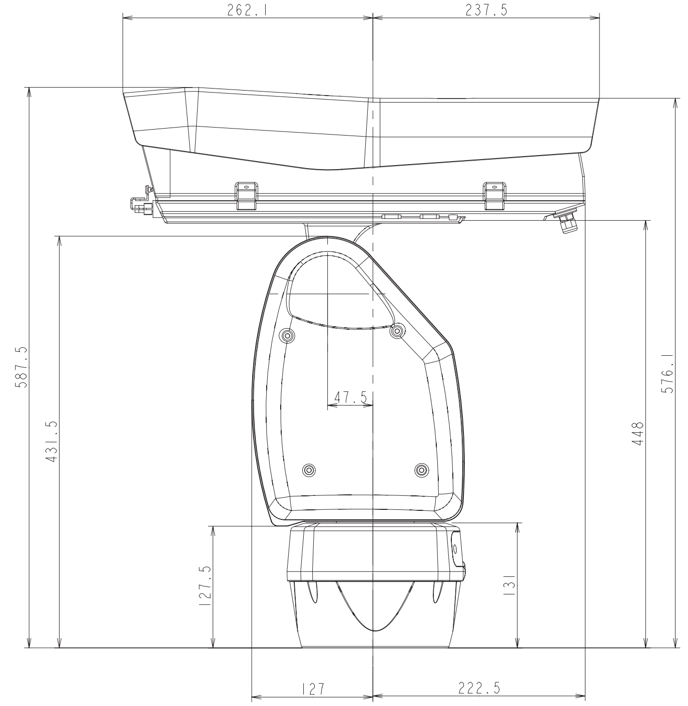
specifications

<SCU-2370>

	NTSC	PAL
SSNR	LOW/MEDIUM/HIGH/OFF	
Sens-up	On/Off (Selectable limit ~ 256X)	
Gain Control	LOW/MEDIUM/HIGH/MANUAL/OFF	
White Balance	ATW / INDOOR / OUTDOOR / Manual / AWC	
Electronic Shutter	AUTO(1/60~120,000sec)/MANUAL/A.FLK	AUTO(1/50~120,000sec)/MANUAL/A.FLK
Serial Com.	RS-422/485, Coaxial Communication	
Protocol	SAMSUNG-T, SAMSUNG-E, Pelco-D, Pelco-P, Pelco Coaxitron, Panasonic, Honeywell, AD, Vicon, ,GE, Bosch	
Alarm	3 In, 2 Out	
Aux	1 Out	
Operating Temperature/ Humidity	-50°C to +50°C / Less than 90% RH	
Storage Temperature/ Humidity	-20°C to +60°C / 20% to 95% RH	
Input Voltage	AC24V ± 10%	
Power Consumption	40W (max. 144W while the heater is operating)	
External Dimensions (WxHxD)	217.3mm × 587.5mm × 500mm	
Weight	17.5Kg	

※ The specification for this product may change without prior notice for product improvement.

DIMENSIONS (SCU-2370/VAC/9051)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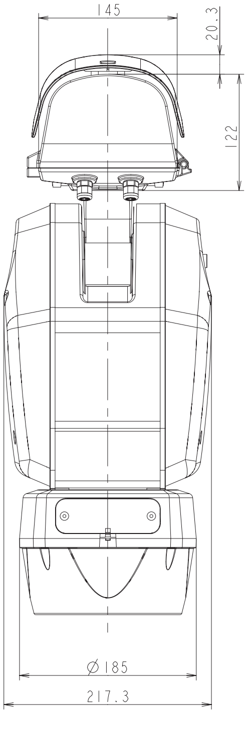
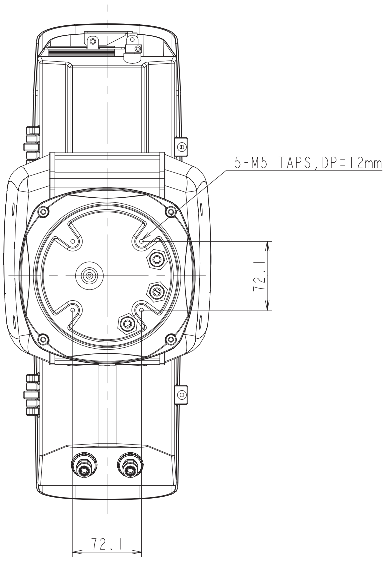
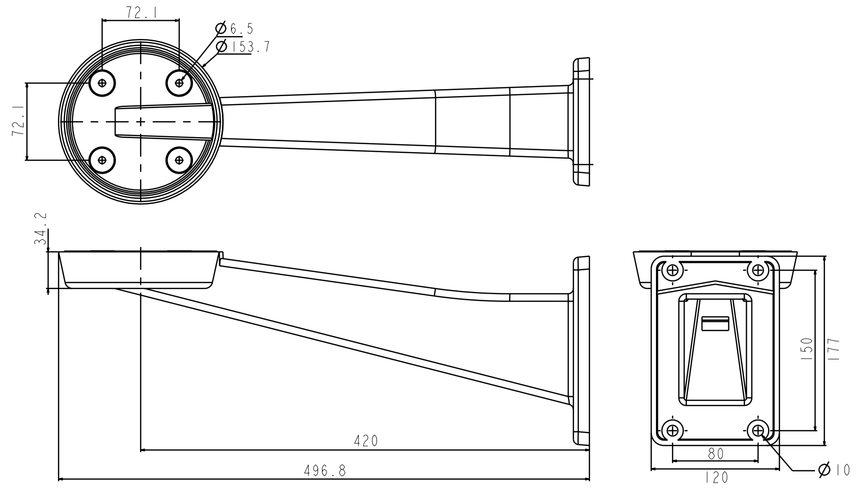
237.5
587.5
431.5
47.5
448
576.1
127.5
131
127
222.5


145
20.3
122
Ø185
217.3


5-M5 TAPS,DP=12mm
72.1
72.1

specifications

- Wall Mount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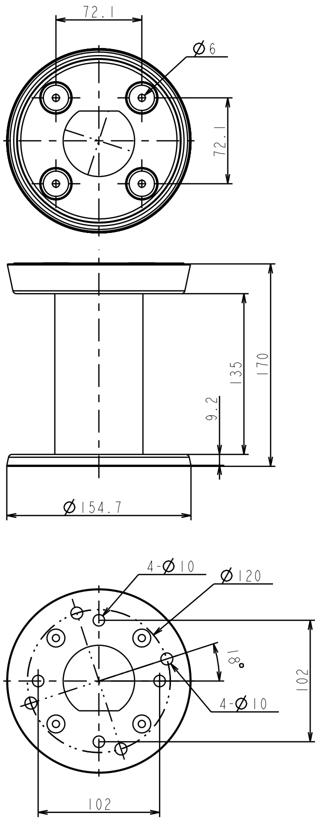
Ø6.5
Ø153.7
72.1
34.2
420
496.8
150
177
80
120
Ø10

- Pole Mount


72.1
Ø6
72.1
135
170
9.2
Ø154.7
4-Ø10
Ø120
18°
4-Ø10
102
102

MEMO

MEMO

MEMO

MEMO

MEMO

SALES NETWORK

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